

Appendix F
Analytical Laboratory Reports and Data
Validation Memorandums

Analytical Laboratory Reports

Pace Laboratories On-Site Laboratory Case Narrative

Report Date	June 7, 2016
Client	CH2M Hill
Site/ Project Name	Freeman WA – Cenex Harvest Lease Site
Location	Freeman, Washington
Dates of Service	May 9, 2016 to May 27, 2016
Test Method Reference	LAM-010 VOCs by 8260 Direct Inject SIM
Pace Project Number	2754

1. Introduction

Pace Analytical – Mobile Lab Services (Pace) mobilized to the referenced site to provide analytical chemistry support during site investigation activities. The compounds of concern for the site are carbon tetrachloride and chloroform. The reported analytes for the project were the full list of VOC analytes reported under the 8260 Direct Inject SIM method. The laboratory analyzed 194 soil samples for the VOC Direct Inject analysis while on site. Since all of the VOC samples were prepared / analyzed upon receipt by the laboratory, all method holding times were met. The Pace Lead Chemists were Jason Worden and Ben Claas, and the Pace project manager was Patrick Letterer.

2. Pace Method Summary

- Soil samples were analyzed for the VOC analytes in accordance with Pace standard operating procedure (SOP) listed above.
- Two Lock N’ Load containers were received for each soil sample. The samples were immediately logged in on Pace chain of custody (COC) and prepared.
- An eight point calibration was performed with verification by an independent second source standard.
- Internal standards and surrogates were added to all samples to verify the accuracy of individual sample results.
- Samples and standards were analyzed by direct injection into the GCMS system.
- Pace performed all analyses using HP 5890 gas chromatograph (GC) systems with Hewlett-Packard (HP) 5972 mass spectrometer.

3. Quality Control Summary

Initial Calibration	For the VOCs, an initial calibration curve was prepared at eight concentrations. (10, 25, 50, 200, 500, 2000, 5000 and 10000 ng/mL).
Continuing Calibration	The instrument calibration was verified every 10 injections and at the end of a run. All continuing calibration checks were acceptable except where qualified.
Method Blanks	The method blanks that were analyzed each day were free of contamination.
Laboratory Control Samples	The recoveries for the constituents of concern were acceptable except where qualified.
MS/MSD	The recoveries for the constituents of concern were acceptable except where qualified.

4. Analytical Reports

All field-generated results were confirmed through the standard Pace review process and no sample results have changed from draft to final. Appendix A contains analytical results for the project in summary format. Appendix B contains full analytical reports for each sample along with quality control sample results. Appendix C contains chain of custody documentation.

5. Signature Approval

This document has been prepared by the under-signed:

 **06/07/2016**

Patrick Letterer
Project Manager

Date

Certification List

		Number	Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2018
FDOH	Florida Secondary NELAP Accreditation	E871093	06/30/2016
ILEPA	Illinois Secondary NELAP Accreditation	003174	04/30/2017
KDHE	Kansas Secondary NELAP Accreditation	E-10384	07/31/2016
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2016
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	06/30/2016
ODEQ	Oklahoma Dept. of Env. Quality Accreditation	2014-153	08/31/2016
PADEP	Pennsylvania Secondary NELAP Accreditation	68-02962	05/31/2017
TCEQ	Texas Secondary NELAP Accreditation	T104704504-15-6	11/30/2016
WADOE	Washington Secondary NELAP Accreditation	C1028	05/01/2017
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2016

Appendix A
Results in Summary Format

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162001-01	K162001-02	K162001-03	K162001-04	K162001-05	K162001-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW3-SS-5	MW3-SS-10	MW3-SS-15	MW3-SS-20	MW3-SS-25	MW3-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Benzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Chloroform	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Chloromethane	0.050 mg/kg dry	<0.048	<0.045	<0.043	<0.056	<0.068	<0.067
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.045	<0.043	<0.056	<0.068	<0.067
Methylene chloride	0.10 mg/kg dry	<0.096	<0.090	<0.087	<0.11	<0.14	<0.13
Naphthalene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
o-Xylene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162001-01	K162001-02	K162001-03	K162001-04	K162001-05	K162001-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW3-SS-5	MW3-SS-10	MW3-SS-15	MW3-SS-20	MW3-SS-25	MW3-SS-30
Volatile Organic Compounds by Method 8260 - Direct Inject (continued)							
Styrene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Toluene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Trichloroethene	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.022	<0.022	<0.028	<0.034	<0.033
Xylenes, total	0.075 mg/kg dry	<0.072	<0.067	<0.065	<0.084	<0.10	<0.10
1-Bromo-2-chloroethane	130 [surr]	90%	85%	96%	92%	86%	98%
Toluene-d8	136 [surr]	94%	90%	96%	96%	90%	100%
4-Bromofluorobenzene	145 [surr]	97%	87%	97%	100%	91%	100%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	82.8	83.5	79.1	65.4	67.6	67.6

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162001-07	K162001-08	K162001-09	K162001-10	K162001-11	K162002-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW3-SS-35	MW3-SS-40	MW3-SS-45	MW3-SS-50	MW3-SS-55	SB01-SS-5

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Chloroform	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Chloromethane	0.050 mg/kg dry	<0.051	<0.052	<0.052	<0.058	<0.048	<0.048
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.052	<0.052	<0.058	<0.048	<0.048
Methylene chloride	0.10 mg/kg dry	<0.10	<0.10	<0.10	<0.12	<0.097	<0.095
Naphthalene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
o-Xylene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162001-07	K162001-08	K162001-09	K162001-10	K162001-11	K162002-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW3-SS-35	MW3-SS-40	MW3-SS-45	MW3-SS-50	MW3-SS-55	SB01-SS-5

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Toluene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Trichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.026	<0.026	<0.029	<0.024	<0.024
Xylenes, total	0.075 mg/kg dry	<0.077	<0.078	<0.077	<0.087	<0.073	<0.071
1-Bromo-2-chloroethane	130 [surr]	93%	100%	100%	86%	100%	85%
Toluene-d8	136 [surr]	95%	110%	110%	91%	110%	92%
4-Bromofluorobenzene	145 [surr]	95%	110%	110%	94%	110%	88%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	66.7	69.0	75.1	61.4	74.4	80.2
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162002-02	K162002-03	K162002-04	K162002-05	K162002-06	K162002-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB01-SS-10	SB01-SS-15	SB01-SS-20	SB01-SS-25	SB01-SS-30	SB01-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Benzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Chloroform	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Chloromethane	0.050 mg/kg dry	<0.055	<0.055	<0.053	<0.049	<0.056	<0.049
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.055	<0.055	<0.053	<0.049	<0.056	<0.049
Methylene chloride	0.10 mg/kg dry	<0.11	<0.11	<0.11	<0.097	<0.11	<0.098
Naphthalene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
o-Xylene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162002-02	K162002-03	K162002-04	K162002-05	K162002-06	K162002-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB01-SS-10	SB01-SS-15	SB01-SS-20	SB01-SS-25	SB01-SS-30	SB01-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Toluene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Trichloroethene	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.028	<0.028	<0.027	<0.024	<0.028	<0.025
Xylenes, total	0.075 mg/kg dry	<0.083	<0.083	<0.080	<0.073	<0.084	<0.074
1-Bromo-2-chloroethane	130 [surr]	87%	110%	83%	80%	98%	87%
Toluene-d8	136 [surr]	90%	110%	87%	85%	100%	91%
4-Bromofluorobenzene	145 [surr]	93%	120%	89%	90%	110%	92%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	68.7	70.0	65.8	67.3	66.1	71.7
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162002-08	K162002-09	K162002-10	K162002-11	K162002-12	K162003-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB01-SS-40	SB01-SS-45	SB01-SS-47	FD1-SS	FD2-SS	SB02-SS-5

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Chloroform	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Chloromethane	0.050 mg/kg dry	<0.048	<0.052	<0.050	<0.046	<0.051	<0.046
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.052	<0.050	<0.046	<0.051	<0.046
Methylene chloride	0.10 mg/kg dry	<0.095	<0.10	<0.10	<0.092	<0.10	<0.091
Naphthalene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
o-Xylene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162002-08	K162002-09	K162002-10	K162002-11	K162002-12	K162003-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB01-SS-40	SB01-SS-45	SB01-SS-47	FD1-SS	FD2-SS	SB02-SS-5

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Toluene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Trichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.026	<0.025	<0.023	<0.026	<0.023
Xylenes, total	0.075 mg/kg dry	<0.072	<0.079	<0.075	<0.069	<0.077	<0.068
1-Bromo-2-chloroethane	130 [surr]	100%	88%	100%	86%	92%	100%
Toluene-d8	136 [surr]	110%	90%	100%	91%	94%	120%
4-Bromofluorobenzene	145 [surr]	110%	100%	110%	91%	96%	110%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	73.9	70.5	70.5	80.4	73.9	83.2
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162003-02	K162003-03	K162003-04	K162003-05	K162003-06	K162003-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB02-SS-10	SB02-SS-15	SB02-SS-20	SB02-SS-25	SB02-SS-30	SB02-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Chloroform	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Chloromethane	0.050 mg/kg dry	<0.048	<0.052	<0.055	<0.055	<0.053	<0.055
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.052	<0.055	<0.055	<0.053	<0.055
Methylene chloride	0.10 mg/kg dry	<0.097	<0.10	<0.11	<0.11	<0.11	<0.11
Naphthalene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
o-Xylene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162003-02	K162003-03	K162003-04	K162003-05	K162003-06	K162003-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB02-SS-10	SB02-SS-15	SB02-SS-20	SB02-SS-25	SB02-SS-30	SB02-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Toluene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Trichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.026	<0.027	<0.028	<0.026	<0.027
Xylenes, total	0.075 mg/kg dry	<0.073	<0.078	<0.082	<0.083	<0.079	<0.082
1-Bromo-2-chloroethane	130 [surr]	92%	130%	110%	130%	110%	99%
Toluene-d8	136 [surr]	98%	130%	120%	130%	120%	100%
4-Bromofluorobenzene	145 [surr]	93%	130%	110%	130%	120%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	79.1	71.1	65.9	70.6	64.8	64.4
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162003-08	K162003-09	K162003-10	K162003-11	K162003-12	K162004-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB02-SS-40	SB02-SS-45	SB02-SS-50	SB02-SS-55	FD3-SS	SB02-SS-60

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027 [1]
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027 [1]
Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Chloroform	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Chloromethane	0.050 mg/kg dry	<0.049	<0.050	<0.053	<0.053	<0.050	<0.054 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.049	<0.050	<0.053	<0.053	<0.050	<0.054
Methylene chloride	0.10 mg/kg dry	<0.098	<0.10	<0.11	<0.11	<0.099	<0.11
Naphthalene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027 [1]
o-Xylene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162003-08	K162003-09	K162003-10	K162003-11	K162003-12	K162004-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB02-SS-40	SB02-SS-45	SB02-SS-50	SB02-SS-55	FD3-SS	SB02-SS-60

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Toluene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Trichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.025	<0.026	<0.027	<0.025	<0.027
Xylenes, total	0.075 mg/kg dry	<0.073	<0.075	<0.079	<0.080	<0.074	<0.081
1-Bromo-2-chloroethane	130 [surr]	100%	120%	97%	91%	110%	84%
Toluene-d8	136 [surr]	110%	120%	100%	100%	110%	92%
4-Bromofluorobenzene	145 [surr]	110%	120%	97%	99%	120%	91%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	71.0	69.3	67.8	64.6	69.5	68.3
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162004-02	K162004-03	K162004-04	K162101-01	K162101-02	K162101-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB02-SS-65	SB02-SS-70	SB02-SS-75	SB03-SS-05	SB03-SS-10	SB03-SS-15

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.029 [1]	<0.028 [1]	<0.026 [1]	<0.025	<0.026	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.029 [1]	<0.028 [1]	<0.026 [1]	<0.025	<0.026	<0.026
Benzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Chloroform	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Chloromethane	0.050 mg/kg dry	<0.059 [2]	<0.055 [2]	<0.052 [2]	<0.049 [2]	<0.053 [2]	<0.052 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.059	<0.055	<0.052	<0.049	<0.053	<0.052
Methylene chloride	0.10 mg/kg dry	<0.12	<0.11	<0.10	<0.098	<0.11	<0.10
Naphthalene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.029 [1]	<0.028 [1]	<0.026 [1]	<0.025	<0.026	<0.026
o-Xylene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Styrene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Toluene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Trichloroethene	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.029	<0.028	<0.026	<0.025	<0.026	<0.026
Xylenes, total	0.075 mg/kg dry	<0.088	<0.083	<0.077	<0.074	<0.079	<0.077
1-Bromo-2-chloroethane	130 [surr]	88%	79%	93%	88%	92%	100%



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162004-02	K162004-03	K162004-04	K162101-01	K162101-02	K162101-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB02-SS-65	SB02-SS-70	SB02-SS-75	SB03-SS-05	SB03-SS-10	SB03-SS-15

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Toluene-d8	136 [surr]	91%	84%	97%	91%	96%	100%
4-Bromofluorobenzene	145 [surr]	90%	84%	86%	88%	93%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	71.9	65.1	91.1	79.5	67.5	68.7
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162101-04	K162101-05	K162101-06	K162101-07	K162101-08	K162102-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB03-SS-20	SB03-SS-25	SB03-SS-30	SB03-SS-35	SB03-SS-40	SB04-SS-05

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023 [2]
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,1-Dichloroethane	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,1-Dichloroethene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,2-Dichloroethane	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
2-Chlorotoluene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
4-Chlorotoluene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Benzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Carbon tetrachloride	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Chlorobenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Chloroform	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Chloromethane	0.050 mg/kg dry	<0.056 [2]	<0.055 [2]	<0.053 [2]	<0.053 [2]	<0.045 [2]	<0.046 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Ethylbenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Isopropylbenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
m,p-Xylene	0.050 mg/kg dry	<0.056	<0.055	<0.053	<0.053	<0.045	<0.046
Methylene chloride	0.10 mg/kg dry	<0.11	<0.11	<0.11	<0.11	<0.091	<0.092
Naphthalene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
n-Butyl Benzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
n-Propyl Benzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
o-Xylene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
p-Isopropyltoluene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
sec-Butyl Benzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162101-04	K162101-05	K162101-06	K162101-07	K162101-08	K162102-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB03-SS-20	SB03-SS-25	SB03-SS-30	SB03-SS-35	SB03-SS-40	SB04-SS-05

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
tert-Butylbenzene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Tetrachloroethene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Toluene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Trichloroethene	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Vinyl chloride	0.025 mg/kg dry	<0.028	<0.027	<0.027	<0.026	<0.023	<0.023
Xylenes, total	0.075 mg/kg dry	<0.084	<0.082	<0.080	<0.079	<0.068	<0.069
1-Bromo-2-chloroethane	130 [surr]	120%	96%	110%	110%	110%	88%
Toluene-d8	136 [surr]	120%	100%	110%	110%	110%	92%
4-Bromofluorobenzene	145 [surr]	110%	93%	100%	110%	110%	86%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	68.7	62.9	73.4	66.7	75.5	80.9
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162102-02	K162102-03	K162102-04	K162102-05	K162102-06	K162102-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB04-SS-10	SB04-SS-15	SB04-SS-20	SB04-SS-25	SB04-SS-30	SB04-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.023 [2]	<0.025 [2]	<0.037 [2]	<0.027 [2]	<0.027 [2]	<0.026 [2]
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Benzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.023	<0.025	<0.037	0.028 [1]	0.10 [1]	0.16 [1]
Chlorobenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Chloroform	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Chloromethane	0.050 mg/kg dry	<0.046 [2]	<0.051 [2]	<0.074 [2]	<0.054 [2]	<0.054 [2]	<0.052 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.046	<0.051	<0.074	<0.054	<0.054	<0.052
Methylene chloride	0.10 mg/kg dry	<0.091	<0.10	<0.15	<0.11	<0.11	<0.10
Naphthalene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
o-Xylene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162102-02	K162102-03	K162102-04	K162102-05	K162102-06	K162102-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB04-SS-10	SB04-SS-15	SB04-SS-20	SB04-SS-25	SB04-SS-30	SB04-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Toluene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Trichloroethene	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.023	<0.025	<0.037	<0.027	<0.027	<0.026
Xylenes, total	0.075 mg/kg dry	<0.068	<0.076	<0.11	<0.081	<0.081	<0.078
1-Bromo-2-chloroethane	130 [surr]	94%	94%	95%	86%	89%	110%
Toluene-d8	136 [surr]	96%	92%	98%	85%	91%	120%
4-Bromofluorobenzene	145 [surr]	89%	86%	87%	81%	84%	110%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	82.7	70.3	69.1	68.8	65.5	72.1
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CH2M

2020 SW 4th Avenue
Portland, OR 97201

Project: Grain Handling Facility at Freeman - Freeman, WA

Project Number: 2754

LAB #		K162102-08	K162102-09	K162103-01	K162103-02	K162103-03	K162103-04
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB04-SS-40	FD4-SS	SB05-SS-05	SB05-SS-10	SB05-SS-15	SB05-SS-20

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026 [2]	<0.026 [2]	<0.023	<0.025	<0.024	<0.029
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Carbon tetrachloride	0.025 mg/kg dry	0.10 [1]	0.098 [1]	<0.023	<0.025	<0.024	<0.029
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Chloroform	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Chloromethane	0.050 mg/kg dry	<0.052 [2]	<0.052 [2]	<0.047 [2]	<0.051 [2]	<0.048 [2]	<0.057 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
m,p-Xylene	0.050 mg/kg dry	<0.052	<0.052	<0.047	<0.051	<0.048	<0.057
Methylene chloride	0.10 mg/kg dry	<0.10	<0.10	<0.094	<0.10	<0.096	<0.11
Naphthalene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
o-Xylene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162102-08	K162102-09	K162103-01	K162103-02	K162103-03	K162103-04
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB04-SS-40	FD4-SS	SB05-SS-05	SB05-SS-10	SB05-SS-15	SB05-SS-20

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Toluene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Trichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.023	<0.025	<0.024	<0.029
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.026	<0.023 [2]	<0.025 [2]	<0.024 [2]	<0.029 [2]
Xylenes, total	0.075 mg/kg dry	<0.079	<0.078	<0.070	<0.076	<0.072	<0.086
1-Bromo-2-chloroethane	130 [surr]	110%	110%	94%	110%	96%	90%
Toluene-d8	136 [surr]	110%	110%	100%	130%	100%	97%
4-Bromofluorobenzene	145 [surr]	110%	100%	94%	120%	95%	91%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	68.4	68.1	81.8	81.5	83.6	65.1
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162103-05	K162103-06	K162103-07	K162103-08	K162103-09	K162103-10
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB05-SS-25	SB05-SS-30	SB05-SS-35	SB05-SS-40	SB05-SS-45	SB05-SS-50

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.026	<0.026	0.027	0.035	<0.022
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Chloroform	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Chloromethane	0.050 mg/kg dry	<0.051 [2]	<0.051 [2]	<0.052 [2]	<0.048 [2]	<0.053 [2]	<0.045 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.051	<0.052	<0.048	<0.053	<0.045
Methylene chloride	0.10 mg/kg dry	<0.10	<0.10	<0.10	<0.096	<0.11	<0.089
Naphthalene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
o-Xylene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162103-05	K162103-06	K162103-07	K162103-08	K162103-09	K162103-10
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB05-SS-25	SB05-SS-30	SB05-SS-35	SB05-SS-40	SB05-SS-45	SB05-SS-50

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Toluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Trichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.024	<0.026	<0.022
Vinyl chloride	0.025 mg/kg dry	<0.025 [2]	<0.026 [2]	<0.026 [2]	<0.024 [2]	<0.026 [2]	<0.022
Xylenes, total	0.075 mg/kg dry	<0.076	<0.077	<0.078	<0.072	<0.079	<0.067
1-Bromo-2-chloroethane	130 [surr]	92%	91%	91%	89%	90%	93%
Toluene-d8	136 [surr]	91%	95%	97%	94%	95%	99%
4-Bromofluorobenzene	145 [surr]	89%	93%	91%	89%	93%	94%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	71.7	64.9	67.8	71.0	69.5	82.5
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162103-11	K162104-01	K162104-02	K162104-03	K162104-04	K162104-05
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	FD5-SS	SB06-SS-05	SB06-SS-10	SB06-SS-15	SB06-SS-21	SB06-SS-25

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,1-Dichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,1-Dichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,2-Dichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
2-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
4-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Carbon tetrachloride	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Chlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Chloroform	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Chloromethane	0.050 mg/kg dry	<0.053 [2]	<0.049 [2]	<0.048 [2]	<0.048 [2]	<0.056 [2]	<0.063 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Ethylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Isopropylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
m,p-Xylene	0.050 mg/kg dry	<0.053	<0.049	<0.048	<0.048	<0.056	<0.063
Methylene chloride	0.10 mg/kg dry	<0.11	<0.099	<0.097	<0.096	<0.11	<0.13
Naphthalene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
n-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
n-Propyl Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
o-Xylene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
p-Isopropyltoluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
sec-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162103-11	K162104-01	K162104-02	K162104-03	K162104-04	K162104-05
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	FD5-SS	SB06-SS-05	SB06-SS-10	SB06-SS-15	SB06-SS-21	SB06-SS-25

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
tert-Butylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Tetrachloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Toluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Trichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Vinyl chloride	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.024	<0.028	<0.031
Xylenes, total	0.075 mg/kg dry	<0.080	<0.074	<0.072	<0.072	<0.084	<0.094
1-Bromo-2-chloroethane	130 [surr]	83%	92%	94%	100%	88%	93%
Toluene-d8	136 [surr]	87%	93%	96%	100%	92%	92%
4-Bromofluorobenzene	145 [surr]	84%	95%	96%	100%	89%	95%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	65.2	79.2	82.6	82.9	73.9	69.9
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162104-06	K162104-07	K162104-08	K162104-09	K162104-10	K162104-11
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB06-SS-30	SB06-SS-35	SB06-SS-40	SB06-SS-45	SB06-SS-50	SB06-SS-56

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Chloroform	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Chloromethane	0.050 mg/kg dry	<0.050 [2]	<0.053	<0.051	<0.052	<0.043	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.050	<0.053	<0.051	<0.052	<0.043	<0.051
Methylene chloride	0.10 mg/kg dry	<0.10	<0.11	<0.10	<0.10	<0.087	<0.10
Naphthalene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
o-Xylene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025



SUMMARY REPORT

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<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #		K162104-06	K162104-07	K162104-08	K162104-09	K162104-10	K162104-11
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB06-SS-30	SB06-SS-35	SB06-SS-40	SB06-SS-45	SB06-SS-50	SB06-SS-56

Volatiles Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Toluene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Trichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.026	<0.026	<0.026	<0.022	<0.025
Xylenes, total	0.075 mg/kg dry	<0.075	<0.079	<0.077	<0.078	<0.065	<0.076
1-Bromo-2-chloroethane	130 [surr]	91%	86%	89%	90%	95%	100%
Toluene-d8	136 [surr]	90%	82%	87%	91%	96%	100%
4-Bromofluorobenzene	145 [surr]	87%	90%	96%	100%	100%	120%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	72.6	68.8	73.4	77.0	82.8	70.6
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162104-12	K162104-13	K162104-14	K162104-15	K162104-16	K162105-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	FD6-SS	SB06-SS-61	SB06-SS-65	SB06-SS-70	SB06-SS-75	SB07-SS-05

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Chloroform	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Chloromethane	0.050 mg/kg dry	<0.050	<0.049	<0.045	<0.054	<0.052	<0.044
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
m,p-Xylene	0.050 mg/kg dry	<0.050	<0.049	<0.045	<0.054	<0.052	<0.044
Methylene chloride	0.10 mg/kg dry	<0.10	<0.097	<0.091	<0.11	<0.10	<0.088
Naphthalene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
o-Xylene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162104-12	K162104-13	K162104-14	K162104-15	K162104-16	K162105-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	FD6-SS	SB06-SS-61	SB06-SS-65	SB06-SS-70	SB06-SS-75	SB07-SS-05

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Toluene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Trichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.024	<0.023	<0.027	<0.026	<0.022
Xylenes, total	0.075 mg/kg dry	<0.076	<0.073	<0.068	<0.081	<0.078	<0.066
1-Bromo-2-chloroethane	130 [surr]	88%	91%	88%	91%	99%	89%
Toluene-d8	136 [surr]	87%	90%	86%	89%	100%	90%
4-Bromofluorobenzene	145 [surr]	94%	99%	95%	95%	110%	98%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	70.9	76.3	75.2	64.0	82.1	81.8
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CH2M

2020 SW 4th Avenue
Portland, OR 97201

Project: Grain Handling Facility at Freeman - Freeman, WA

Project Number: 2754

LAB #		K162105-02	K162105-03	K162105-04	K162105-05	K162105-06	K162105-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB07-SS-10	SB07-SS-15	SB07-SS-20	SB07-SS-25	SB07-SS-30	SB07-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Benzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Chloroform	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Chloromethane	0.050 mg/kg dry	<0.054	<0.056	<0.055	<0.054	<0.050	<0.052
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.054	<0.056	<0.055	<0.054	<0.050	<0.052
Methylene chloride	0.10 mg/kg dry	<0.11	<0.11	<0.11	<0.11	<0.10	<0.10
Naphthalene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
o-Xylene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162105-02	K162105-03	K162105-04	K162105-05	K162105-06	K162105-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB07-SS-10	SB07-SS-15	SB07-SS-20	SB07-SS-25	SB07-SS-30	SB07-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Toluene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Trichloroethene	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.027	<0.028	<0.027	<0.027	<0.025	<0.026
Xylenes, total	0.075 mg/kg dry	<0.081	<0.083	<0.082	<0.080	<0.075	<0.078
1-Bromo-2-chloroethane	130 [surr]	88%	97%	87%	81%	90%	87%
Toluene-d8	136 [surr]	87%	93%	86%	82%	88%	87%
4-Bromofluorobenzene	145 [surr]	97%	100%	91%	91%	95%	91%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	70.4	68.3	67.6	70.0	68.3	71.2
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162105-08	K162105-09	K162105-10	K162105-11	K162105-12	K162105-13
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB07-SS-40	SB07-SS-45	SB07-SS-50	SB07-SS-55	SB07-SS-60	SB07-SS-65

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Benzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Chloroform	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Chloromethane	0.050 mg/kg dry	<0.050	<0.064	<0.052	<0.054	<0.065	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.050	<0.064	<0.052	<0.054	<0.065	<0.051
Methylene chloride	0.10 mg/kg dry	<0.099	<0.13	<0.10	<0.11	<0.13	<0.10
Naphthalene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
o-Xylene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162105-08	K162105-09	K162105-10	K162105-11	K162105-12	K162105-13
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB07-SS-40	SB07-SS-45	SB07-SS-50	SB07-SS-55	SB07-SS-60	SB07-SS-65

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Toluene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Trichloroethene	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.032	<0.026	<0.027	<0.033	<0.026
Xylenes, total	0.075 mg/kg dry	<0.074	<0.096	<0.079	<0.082	<0.098	<0.077
1-Bromo-2-chloroethane	130 [surr]	91%	91%	87%	86%	83%	92%
Toluene-d8	136 [surr]	91%	91%	86%	84%	81%	89%
4-Bromofluorobenzene	145 [surr]	100%	98%	95%	96%	89%	97%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	70.3	69.8	68.3	65.8	63.4	73.1
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162105-14	K162105-15	K162105-16	K162106-01	K162106-02	K162106-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	FD7-SS	SB07-SS-70	SB07-SS-75	MW5-SS-05	MW5-SS-10	MW5-SS-15
Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)							
1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Chloroform	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Chloromethane	0.050 mg/kg dry	<0.052	<0.048	<0.047	<0.047 [2]	<0.047 [2]	<0.048 [2]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
m,p-Xylene	0.050 mg/kg dry	<0.052	<0.048	<0.047	<0.047	<0.047	<0.048
Methylene chloride	0.10 mg/kg dry	<0.10	<0.097	<0.095	<0.094	<0.093	<0.095
Naphthalene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
o-Xylene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162105-14	K162105-15	K162105-16	K162106-01	K162106-02	K162106-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	FD7-SS	SB07-SS-70	SB07-SS-75	MW5-SS-05	MW5-SS-10	MW5-SS-15
Volatile Organic Compounds by Method 8260 - Direct Inject (continued)							
Styrene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Toluene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Trichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023	<0.023	<0.024
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.024	<0.024	<0.023 [2]	<0.023 [2]	<0.024 [2]
Xylenes, total	0.075 mg/kg dry	<0.079	<0.073	<0.071	<0.070	<0.070	<0.072
1-Bromo-2-chloroethane	130 [surr]	95%	91%	97%	95%	110%	100%
Toluene-d8	136 [surr]	93%	90%	94%	94%	110%	100%
4-Bromofluorobenzene	145 [surr]	100%	96%	100%	98%	100%	100%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	69.5	72.5	85.8	81.9	77.8	79.4

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162106-04	K162106-05	K162106-06	K162106-07	K162106-08	K162106-09
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW5-SS-20	MW5-SS-25	MW5-SS-27	MW5-SS-30	MW5-SS-35	MW5-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Benzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Chloroform	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Chloromethane	0.050 mg/kg dry	<0.043 [2]	<0.049 [2]	<0.041 [2]	<0.047 [2]	<0.051	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.043	<0.049	<0.041	<0.047	<0.051	<0.051
Methylene chloride	0.10 mg/kg dry	<0.086	<0.098	<0.083	<0.093	<0.10	<0.10
Naphthalene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
o-Xylene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162106-04	K162106-05	K162106-06	K162106-07	K162106-08	K162106-09
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW5-SS-20	MW5-SS-25	MW5-SS-27	MW5-SS-30	MW5-SS-35	MW5-SS-40
Volatile Organic Compounds by Method 8260 - Direct Inject (continued)							
Styrene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Toluene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Trichloroethene	0.025 mg/kg dry	<0.022	<0.025	<0.021	<0.023	<0.025	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.022 [2]	<0.025 [2]	<0.021 [2]	<0.023 [2]	<0.025	<0.025
Xylenes, total	0.075 mg/kg dry	<0.065	<0.074	<0.062	<0.070	<0.076	<0.076
1-Bromo-2-chloroethane	130 [surr]	100%	99%	85%	90%	89%	95%
Toluene-d8	136 [surr]	100%	100%	94%	89%	88%	91%
4-Bromofluorobenzene	145 [surr]	100%	100%	91%	89%	98%	100%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	80.6	84.0	88.7	86.6	71.7	78.3

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162106-10	K162106-11	K162106-12	K162106-13	K162201-01	K162201-02
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW5-SS-45	MW5-SS-50	MW5-SS-55	FD8-SS	SB08-SS-05	SB08-SS-10

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Chloroform	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Chloromethane	0.050 mg/kg dry	<0.054	<0.045	<0.046	<0.052	<0.043	<0.050
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.054	<0.045	<0.046	<0.052	<0.043	<0.050
Methylene chloride	0.10 mg/kg dry	<0.11	<0.091	<0.092	<0.10	<0.086	<0.10
Naphthalene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
o-Xylene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162106-10	K162106-11	K162106-12	K162106-13	K162201-01	K162201-02
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW5-SS-45	MW5-SS-50	MW5-SS-55	FD8-SS	SB08-SS-05	SB08-SS-10

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Toluene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Trichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.027	<0.023	<0.023	<0.026	<0.022	<0.025
Xylenes, total	0.075 mg/kg dry	<0.081	<0.068	<0.069	<0.078	<0.065	<0.075
1-Bromo-2-chloroethane	130 [surr]	95%	91%	95%	97%	91%	83%
Toluene-d8	136 [surr]	92%	91%	94%	100%	90%	84%
4-Bromofluorobenzene	145 [surr]	100%	100%	110%	110%	93%	81%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	94.5	83.0	78.6	85.3	82.8	76.2
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162201-03	K162201-04	K162201-05	K162201-06	K162201-07	K162201-08
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB08-SS-15	SB08-SS-20	SB08-SS-25	SB08-SS-30	SB08-SS-35	SB08-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Benzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Chloroform	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Chloromethane	0.050 mg/kg dry	<0.051	<0.054	<0.051	<0.053	<0.054	<0.049
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.054	<0.051	<0.053	<0.054	<0.049
Methylene chloride	0.10 mg/kg dry	<0.10	<0.11	<0.10	<0.11	<0.11	<0.099
Naphthalene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
o-Xylene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162201-03	K162201-04	K162201-05	K162201-06	K162201-07	K162201-08
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB08-SS-15	SB08-SS-20	SB08-SS-25	SB08-SS-30	SB08-SS-35	SB08-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Toluene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Trichloroethene	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.027	<0.025	<0.026	<0.027	<0.025
Xylenes, total	0.075 mg/kg dry	<0.077	<0.081	<0.076	<0.079	<0.081	<0.074
1-Bromo-2-chloroethane	130 [surr]	83%	89%	84%	75%	84%	81%
Toluene-d8	136 [surr]	91%	87%	84%	77%	85%	85%
4-Bromofluorobenzene	145 [surr]	86%	86%	83%	77%	92%	95%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	68.9	60.7	69.3	66.4	65.8	69.6
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Special Notes

- 1 = Estimated value because of quality control sample exceedances.
- 2 = Results may be biased low because of low continuing calibration verification (CCV).

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162201-09	K162201-10	K162201-11	K162202-01	K162202-02	K162202-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB08-SS-45	SB08-SS-50	FD9-SS	SB09-SS-05	SB09-SS-10	SB09-SS-15

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Carbon tetrachloride	0.025 mg/kg dry	0.028	<0.024	0.036	<0.023	<0.026	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Chloroform	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Chloromethane	0.050 mg/kg dry	<0.052	<0.048	<0.053	<0.046	<0.052	<0.052
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.052	<0.048	<0.053	<0.046	<0.052	<0.052
Methylene chloride	0.10 mg/kg dry	<0.10	<0.097	<0.11	<0.091	<0.10	<0.10
Naphthalene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
o-Xylene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162201-09	K162201-10	K162201-11	K162202-01	K162202-02	K162202-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB08-SS-45	SB08-SS-50	FD9-SS	SB09-SS-05	SB09-SS-10	SB09-SS-15

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Toluene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Trichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.024	<0.026	<0.023	<0.026	<0.026
Xylenes, total	0.075 mg/kg dry	<0.078	<0.073	<0.079	<0.068	<0.078	<0.078
1-Bromo-2-chloroethane	130 [surr]	82%	94%	86%	85%	93%	85%
Toluene-d8	136 [surr]	83%	95%	87%	89%	94%	86%
4-Bromofluorobenzene	145 [surr]	90%	98%	94%	89%	96%	90%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	62.5	88.9	69.2	81.7	67.3	65.5
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162202-04	K162202-05	K162202-06	K162202-07	K162202-08	K162202-09
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB09-SS-20	SB09-SS-25	SB09-SS-30	SB09-SS-35	SB09-SS-39	FD10-SS

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Benzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Chloroform	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Chloromethane	0.050 mg/kg dry	<0.048	<0.054	<0.051	<0.053	<0.047	<0.054
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.054	<0.051	<0.053	<0.047	<0.054
Methylene chloride	0.10 mg/kg dry	<0.095	<0.11	<0.10	<0.11	<0.094	<0.11
Naphthalene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
o-Xylene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162202-04	K162202-05	K162202-06	K162202-07	K162202-08	K162202-09
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB09-SS-20	SB09-SS-25	SB09-SS-30	SB09-SS-35	SB09-SS-39	FD10-SS

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Toluene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Trichloroethene	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.027	<0.026	<0.027	<0.023	<0.027
Xylenes, total	0.075 mg/kg dry	<0.071	<0.081	<0.077	<0.080	<0.070	<0.080
1-Bromo-2-chloroethane	130 [surr]	87%	81%	82%	86%	96%	84%
Toluene-d8	136 [surr]	90%	83%	83%	88%	93%	84%
4-Bromofluorobenzene	145 [surr]	94%	79%	89%	95%	93%	93%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	84.4	64.8	64.9	71.7	77.4	65.1
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SUMMARY REPORT

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<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #		K162202-10	K162202-11	K162202-12	K162202-13	K162202-14	K162202-15
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB10-SS-05	SB10-SS-10	SB10-SS-15	SB10-SS-20	SB10-SS-25	SB10-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,1-Dichloroethane	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,1-Dichloroethene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,2-Dichloroethane	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
2-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
4-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Benzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Carbon tetrachloride	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Chlorobenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Chloroform	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Chloromethane	0.050 mg/kg dry	<0.047	<0.054	<0.051	<0.052	<0.053	<0.057
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Ethylbenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Isopropylbenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
m,p-Xylene	0.050 mg/kg dry	<0.047	<0.054	<0.051	<0.052	<0.053	<0.057
Methylene chloride	0.10 mg/kg dry	<0.094	<0.11	<0.10	<0.10	<0.11	<0.11
Naphthalene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
n-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
n-Propyl Benzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
o-Xylene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
p-Isopropyltoluene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
sec-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162202-10	K162202-11	K162202-12	K162202-13	K162202-14	K162202-15
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB10-SS-05	SB10-SS-10	SB10-SS-15	SB10-SS-20	SB10-SS-25	SB10-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
tert-Butylbenzene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Tetrachloroethene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Toluene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Trichloroethene	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Vinyl chloride	0.025 mg/kg dry	<0.023	<0.027	<0.025	<0.026	<0.026	<0.028
Xylenes, total	0.075 mg/kg dry	<0.070	<0.081	<0.076	<0.078	<0.079	<0.085
1-Bromo-2-chloroethane	130 [surr]	87%	85%	86%	87%	85%	89%
Toluene-d8	136 [surr]	90%	89%	88%	91%	86%	82%
4-Bromofluorobenzene	145 [surr]	97%	85%	91%	90%	88%	85%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	79.9	68.6	68.4	66.3	66.1	66.5
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CH2M

2020 SW 4th Avenue
Portland, OR 97201

Project: Grain Handling Facility at Freeman - Freeman, WA

Project Number: 2754

LAB #		K162202-16	K162202-17	K162202-18	K162202-19	K162203-01	K162203-02
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB10-SS-35	SB10-SS-40	SB10-SS-45	FD11-SS	SB12-SS-05	SB12-SS-10

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023 [1]	<0.026 [1]
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023 [1]	<0.026 [1]
Benzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Chloroform	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Chloromethane	0.050 mg/kg dry	<0.051	<0.050	<0.046	<0.054	<0.047	<0.052
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.050	<0.046	<0.054	<0.047	<0.052
Methylene chloride	0.10 mg/kg dry	<0.10	<0.099	<0.092	<0.11	<0.093	<0.10
Naphthalene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
o-Xylene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162202-16	K162202-17	K162202-18	K162202-19	K162203-01	K162203-02
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB10-SS-35	SB10-SS-40	SB10-SS-45	FD11-SS	SB12-SS-05	SB12-SS-10

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Toluene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Trichloroethene	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.025	<0.023	<0.027	<0.023	<0.026
Xylenes, total	0.075 mg/kg dry	<0.077	<0.074	<0.069	<0.081	<0.070	<0.078
1-Bromo-2-chloroethane	130 [surr]	80%	86%	82%	83%	91%	95%
Toluene-d8	136 [surr]	83%	89%	85%	84%	93%	99%
4-Bromofluorobenzene	145 [surr]	93%	96%	94%	81%	92%	96%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	66.9	69.2	76.3	65.4	81.7	88.7
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162203-03	K162203-04	K162203-05	K162203-06	K162203-07	K162203-08
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB12-SS-15	SB12-SS-20	SB12-SS-25	SB12-SS-30	SB12-SS-35	SB12-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
2-Chlorotoluene	0.025 mg/kg dry	<0.025 [1]	<0.023 [1]	<0.024 [1]	<0.025 [1]	<0.025 [1]	<0.024 [1]
4-Chlorotoluene	0.025 mg/kg dry	<0.025 [1]	<0.023 [1]	<0.024 [1]	<0.025 [1]	<0.025 [1]	<0.024 [1]
Benzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Chloroform	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Chloromethane	0.050 mg/kg dry	<0.050	<0.046	<0.048	<0.051	<0.051	<0.049
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
m,p-Xylene	0.050 mg/kg dry	<0.050	<0.046	<0.048	<0.051	<0.051	<0.049
Methylene chloride	0.10 mg/kg dry	<0.10	<0.092	<0.097	<0.10	<0.10	<0.098
1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Naphthalene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
o-Xylene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162203-03	K162203-04	K162203-05	K162203-06	K162203-07	K162203-08
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB12-SS-15	SB12-SS-20	SB12-SS-25	SB12-SS-30	SB12-SS-35	SB12-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Styrene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Toluene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Trichloroethene	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.023	<0.024	<0.025	<0.025	<0.024
Xylenes, total	0.075 mg/kg dry	<0.075	<0.069	<0.073	<0.076	<0.076	<0.073
1-Bromo-2-chloroethane	130 [surr]	90%	92%	86%	78%	85%	85%
Toluene-d8	136 [surr]	92%	92%	88%	83%	88%	88%
4-Bromofluorobenzene	145 [surr]	93%	100%	85%	90%	93%	91%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	77.8	83.7	83.6	76.1	77.9	80.3
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162203-09	K162203-10	K162203-11	K162203-12	K162203-13	K162203-14
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB12-SS-45	SB12-SS-50	SB12-SS-55	FD12-SS	SB11-SS-05	SB11-SS-10

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.025 [1]	<0.025 [1]	<0.024 [1]	<0.025 [1]	<0.022	<0.027
4-Chlorotoluene	0.025 mg/kg dry	<0.025 [1]	<0.025 [1]	<0.024 [1]	<0.025 [1]	<0.022	<0.027
Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Chloroform	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Chloromethane	0.050 mg/kg dry	<0.050	<0.050	<0.047	<0.050	<0.044	<0.054
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.050	<0.050	<0.047	<0.050	<0.044	<0.054
Methylene chloride	0.10 mg/kg dry	<0.099	<0.10	<0.095	<0.10	<0.089	<0.11
1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Naphthalene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
o-Xylene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162203-09	K162203-10	K162203-11	K162203-12	K162203-13	K162203-14
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB12-SS-45	SB12-SS-50	SB12-SS-55	FD12-SS	SB11-SS-05	SB11-SS-10

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Styrene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Toluene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Trichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.025	<0.024	<0.025	<0.022	<0.027
Xylenes, total	0.075 mg/kg dry	<0.074	<0.076	<0.071	<0.075	<0.067	<0.080
1-Bromo-2-chloroethane	130 [surr]	89%	85%	88%	87%	84%	86%
Toluene-d8	136 [surr]	86%	89%	88%	89%	81%	89%
4-Bromofluorobenzene	145 [surr]	83%	83%	83%	91%	80%	94%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	76.1	88.2	77.0	88.6	82.1	66.8
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162203-15	K162203-16	K162203-17	K162203-18	K162203-19	K162203-20
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB11-SS-15	SB11-SS-20	SB11-SS-25	SB11-SS-30	SB11-SS-35	SB11-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Benzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Chloroform	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Chloromethane	0.050 mg/kg dry	<0.045	<0.049	<0.051	<0.050	<0.047	<0.050
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.045	<0.049	<0.051	<0.050	<0.047	<0.050
Methylene chloride	0.10 mg/kg dry	<0.090	<0.097	<0.10	<0.10	<0.094	<0.10
1,1,1-Trichloroethane	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Naphthalene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
o-Xylene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Styrene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Toluene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Trichloroethene	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.022	<0.024	<0.026	<0.025	<0.024	<0.025



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162203-15	K162203-16	K162203-17	K162203-18	K162203-19	K162203-20
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB11-SS-15	SB11-SS-20	SB11-SS-25	SB11-SS-30	SB11-SS-35	SB11-SS-40

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Xylenes, total	0.075 mg/kg dry	<0.067	<0.073	<0.077	<0.075	<0.071	<0.075
1-Bromo-2-chloroethane	130 [surr]	94%	100%	89%	90%	84%	89%
Toluene-d8	136 [surr]	100%	99%	92%	90%	90%	92%
4-Bromofluorobenzene	145 [surr]	97%	100%	85%	100%	90%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	82.9	83.1	83.5	82.9	80.2	75.7
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SUMMARY REPORT

<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #		K162203-21	K162203-22	K162203-23	K162203-24	K162203-25	K162203-26
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB11-SS-45	SB11-SS-50	SB11-SS-55	SB11-SS-60	SB11-SS-65	FD13-SS

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Chloroform	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Chloromethane	0.050 mg/kg dry	<0.051	<0.050	<0.050	<0.048	<0.047	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.050	<0.050	<0.048	<0.047	<0.051
Methylene chloride	0.10 mg/kg dry	<0.10	<0.10	<0.10	<0.096	<0.093	<0.10
1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Naphthalene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
o-Xylene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025



SUMMARY REPORT

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CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162203-21	K162203-22	K162203-23	K162203-24	K162203-25	K162203-26
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB11-SS-45	SB11-SS-50	SB11-SS-55	SB11-SS-60	SB11-SS-65	FD13-SS

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Styrene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Toluene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Trichloroethene	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.025	<0.025	<0.024	<0.023	<0.025
Xylenes, total	0.075 mg/kg dry	<0.076	<0.076	<0.075	<0.072	<0.070	<0.076
1-Bromo-2-chloroethane	130 [surr]	88%	90%	93%	88%	86%	87%
Toluene-d8	136 [surr]	91%	92%	98%	87%	88%	93%
4-Bromofluorobenzene	145 [surr]	87%	95%	95%	94%	89%	96%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	86.2	84.1	84.3	79.9	82.9	82.5
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-01	K162204-02	K162204-03	K162204-04	K162204-05	K162204-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB13-SS-05	SB13-SS-10	SB13-SS-15	SB13-SS-20	SB13-SS-25	SB13-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Benzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Chloroform	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Chloromethane	0.050 mg/kg dry	<0.051	<0.046	<0.049	<0.051	<0.048	<0.054
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.046	<0.049	<0.051	<0.048	<0.054
Methylene chloride	0.10 mg/kg dry	<0.10	<0.093	<0.098	<0.10	<0.097	<0.11
Naphthalene	0.025 mg/kg dry	<0.026	<0.023 [2]	<0.025	<0.025 [2]	<0.024	<0.027 [2]
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
o-Xylene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-01	K162204-02	K162204-03	K162204-04	K162204-05	K162204-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB13-SS-05	SB13-SS-10	SB13-SS-15	SB13-SS-20	SB13-SS-25	SB13-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Toluene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Trichloroethene	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.023	<0.025	<0.025	<0.024	<0.027
Xylenes, total	0.075 mg/kg dry	<0.077	<0.070	<0.074	<0.076	<0.072	<0.082
1-Bromo-2-chloroethane	130 [surr]	87%	90%	91%	94%	87%	87%
Toluene-d8	136 [surr]	92%	89%	95%	98%	94%	89%
4-Bromofluorobenzene	145 [surr]	86%	96%	110%	97%	93%	92%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	83.5	82.3	71.3	68.0	69.4	67.0
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-07	K162204-08	K162204-09	K162204-10	K162204-11	K162204-12
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB13-SS-35	SB13-SS-40	SB13-SS-45	SB13-SS-50	SB13-SS-55	SB13-SS-60

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Benzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Chloroform	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Chloromethane	0.050 mg/kg dry	<0.054	<0.062	<0.056	<0.054	<0.052	<0.049
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.054	<0.062	<0.056	<0.054	<0.052	<0.049
Methylene chloride	0.10 mg/kg dry	<0.11	<0.12	<0.11	<0.11	<0.10	<0.098
Naphthalene	0.025 mg/kg dry	<0.027	<0.031 [2]	<0.028	<0.027 [2]	<0.026	<0.025 [2]
n-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
o-Xylene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-07	K162204-08	K162204-09	K162204-10	K162204-11	K162204-12
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB13-SS-35	SB13-SS-40	SB13-SS-45	SB13-SS-50	SB13-SS-55	SB13-SS-60

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Toluene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Trichloroethene	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.027	<0.031	<0.028	<0.027	<0.026	<0.025
Xylenes, total	0.075 mg/kg dry	<0.081	<0.093	<0.084	<0.080	<0.077	<0.074
1-Bromo-2-chloroethane	130 [surr]	91%	89%	85%	91%	120%	110%
Toluene-d8	136 [surr]	92%	88%	89%	92%	120%	110%
4-Bromofluorobenzene	145 [surr]	89%	90%	82%	93%	100%	110%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	63.3	64.2	66.7	65.0	76.8	78.8
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-13	K162204-14	K162204-15	K162204-16	K162204-17	K162204-18
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB13-SS-63	FD-14-SS	SB14-SS-05	SB14-SS-10	SB14-SS-15	SB14-SS-20

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Chloroform	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Chloromethane	0.050 mg/kg dry	<0.048	<0.051	<0.045	<0.047	<0.047	<0.045
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.051	<0.045	<0.047	<0.047	<0.045
Methylene chloride	0.10 mg/kg dry	<0.096	<0.10	<0.091	<0.094	<0.094	<0.090
Naphthalene	0.025 mg/kg dry	<0.024	<0.025 [2]	<0.023	<0.024 [2]	<0.023	<0.022 [2]
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
o-Xylene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-13	K162204-14	K162204-15	K162204-16	K162204-17	K162204-18
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB13-SS-63	FD-14-SS	SB14-SS-05	SB14-SS-10	SB14-SS-15	SB14-SS-20

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Toluene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Trichloroethene	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.025	<0.023	<0.024	<0.023	<0.022
Xylenes, total	0.075 mg/kg dry	<0.072	<0.076	<0.068	<0.071	<0.070	<0.067
1-Bromo-2-chloroethane	130 [surr]	92%	86%	100%	93%	110%	99%
Toluene-d8	136 [surr]	94%	89%	100%	98%	100%	100%
4-Bromofluorobenzene	145 [surr]	99%	95%	100%	99%	110%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	86.2	66.0	83.9	79.6	83.2	79.2
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-19	K162204-20	K162204-21	K162204-22	K162204-23	K162204-24
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB14-SS-25	SB14-SS-30	SB14-SS-35	SB14-SS-40	SB14-SS-45	FD15-SS

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Benzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Chloroform	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Chloromethane	0.050 mg/kg dry	<0.048	<0.060	<0.051	<0.053	<0.062	<0.058
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.060	<0.051	<0.053	<0.062	<0.058
Methylene chloride	0.10 mg/kg dry	<0.096	<0.12	<0.10	<0.11	<0.12	<0.12
Naphthalene	0.025 mg/kg dry	<0.024	<0.030 [2]	<0.025	<0.027 [2]	<0.031	<0.029 [2]
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
o-Xylene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
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Portland, OR 97201	

LAB #		K162204-19	K162204-20	K162204-21	K162204-22	K162204-23	K162204-24
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB14-SS-25	SB14-SS-30	SB14-SS-35	SB14-SS-40	SB14-SS-45	FD15-SS

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Toluene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Trichloroethene	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.030	<0.025	<0.027	<0.031	<0.029
Xylenes, total	0.075 mg/kg dry	<0.072	<0.090	<0.076	<0.080	<0.093	<0.087
1-Bromo-2-chloroethane	130 [surr]	100%	89%	110%	88%	98%	93%
Toluene-d8	136 [surr]	100%	90%	110%	90%	100%	95%
4-Bromofluorobenzene	145 [surr]	98%	94%	98%	99%	100%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	75.0	70.7	70.3	69.4	89.1	73.8
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-25	K162204-26	-	-	-	-
MATRIX	Minimum	Soil	Soil	-	-	-	-
SAMPLE ID	Reporting Limit	SB14-SS-50	SB14-SS-54	-	-	-	-

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,1-Dichloroethane	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,1-Dichloroethene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,2-Dichloroethane	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
2-Chlorotoluene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
4-Chlorotoluene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Benzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Carbon tetrachloride	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Chlorobenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Chloroform	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Chloromethane	0.050 mg/kg dry	<0.062	<0.048	-	-	-	-
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Ethylbenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Isopropylbenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
m,p-Xylene	0.050 mg/kg dry	<0.062	<0.048	-	-	-	-
Methylene chloride	0.10 mg/kg dry	<0.12	<0.097	-	-	-	-
Naphthalene	0.025 mg/kg dry	<0.031	<0.024 [2]	-	-	-	-
n-Butyl Benzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
n-Propyl Benzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
o-Xylene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
p-Isopropyltoluene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
sec-Butyl Benzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162204-25	K162204-26	-	-	-	-
MATRIX	Minimum	Soil	Soil	-	-	-	-
SAMPLE ID	Reporting Limit	SB14-SS-50	SB14-SS-54	-	-	-	-

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
tert-Butylbenzene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Tetrachloroethene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Toluene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Trichloroethene	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Vinyl chloride	0.025 mg/kg dry	<0.031	<0.024	-	-	-	-
Xylenes, total	0.075 mg/kg dry	<0.093	<0.072	-	-	-	-
1-Bromo-2-chloroethane	130 [surr]	94%	100%	-	-	-	-
Toluene-d8	136 [surr]	99%	110%	-	-	-	-
4-Bromofluorobenzene	145 [surr]	95%	110%	-	-	-	-

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	79.8	82.4	-	-	-	-
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Special Notes

- 1 = Estimated value because of quality control sample exceedances.
- 2 = Results may be biased low because of low continuing calibration verification (CCV).

Appendix B

Detailed Sample and Quality Control Results



2525 Advance Road
 Madison, WI 53718
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW3-SS-5	K162001-01	Soil	05/10/2016	05/10/2016
MW3-SS-10	K162001-02	Soil	05/10/2016	05/10/2016
MW3-SS-15	K162001-03	Soil	05/10/2016	05/10/2016
MW3-SS-20	K162001-04	Soil	05/10/2016	05/10/2016
MW3-SS-25	K162001-05	Soil	05/10/2016	05/10/2016
MW3-SS-30	K162001-06	Soil	05/10/2016	05/10/2016
MW3-SS-35	K162001-07	Soil	05/10/2016	05/10/2016
MW3-SS-40	K162001-08	Soil	05/10/2016	05/10/2016
MW3-SS-45	K162001-09	Soil	05/10/2016	05/10/2016
MW3-SS-50	K162001-10	Soil	05/10/2016	05/10/2016
MW3-SS-55	K162001-11	Soil	05/10/2016	05/10/2016
SB01-SS-5	K162002-01	Soil	05/11/2016	05/11/2016
SB01-SS-10	K162002-02	Soil	05/11/2016	05/11/2016
SB01-SS-15	K162002-03	Soil	05/11/2016	05/11/2016
SB01-SS-20	K162002-04	Soil	05/11/2016	05/11/2016
SB01-SS-25	K162002-05	Soil	05/11/2016	05/11/2016
SB01-SS-30	K162002-06	Soil	05/11/2016	05/11/2016
SB01-SS-35	K162002-07	Soil	05/11/2016	05/11/2016
SB01-SS-40	K162002-08	Soil	05/11/2016	05/11/2016
SB01-SS-45	K162002-09	Soil	05/11/2016	05/11/2016
SB01-SS-47	K162002-10	Soil	05/11/2016	05/11/2016
FD1-SS	K162002-11	Soil	05/11/2016	05/11/2016
FD2-SS	K162002-12	Soil	05/11/2016	05/11/2016
SB02-SS-5	K162003-01	Soil	05/12/2016	05/12/2016
SB02-SS-10	K162003-02	Soil	05/12/2016	05/12/2016
SB02-SS-15	K162003-03	Soil	05/12/2016	05/12/2016
SB02-SS-20	K162003-04	Soil	05/12/2016	05/12/2016
SB02-SS-25	K162003-05	Soil	05/12/2016	05/12/2016
SB02-SS-30	K162003-06	Soil	05/12/2016	05/12/2016
SB02-SS-35	K162003-07	Soil	05/12/2016	05/12/2016
SB02-SS-40	K162003-08	Soil	05/12/2016	05/12/2016



2525 Advance Road
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB02-SS-45	K162003-09	Soil	05/12/2016	05/12/2016
SB02-SS-50	K162003-10	Soil	05/12/2016	05/12/2016
SB02-SS-55	K162003-11	Soil	05/12/2016	05/12/2016
FD3-SS	K162003-12	Soil	05/12/2016	05/12/2016
SB02-SS-60	K162004-01	Soil	05/12/2016	05/13/2016
SB02-SS-65	K162004-02	Soil	05/12/2016	05/13/2016
SB02-SS-70	K162004-03	Soil	05/12/2016	05/13/2016
SB02-SS-75	K162004-04	Soil	05/12/2016	05/13/2016
SB03-SS-05	K162101-01	Soil	05/13/2016	05/13/2016
SB03-SS-10	K162101-02	Soil	05/13/2016	05/13/2016
SB03-SS-15	K162101-03	Soil	05/13/2016	05/13/2016
SB03-SS-20	K162101-04	Soil	05/13/2016	05/13/2016
SB03-SS-25	K162101-05	Soil	05/13/2016	05/13/2016
SB03-SS-30	K162101-06	Soil	05/13/2016	05/13/2016
SB03-SS-35	K162101-07	Soil	05/13/2016	05/13/2016
SB03-SS-40	K162101-08	Soil	05/13/2016	05/13/2016
SB04-SS-05	K162102-01	Soil	05/16/2016	05/16/2016
SB04-SS-10	K162102-02	Soil	05/16/2016	05/16/2016
SB04-SS-15	K162102-03	Soil	05/16/2016	05/16/2016
SB04-SS-20	K162102-04	Soil	05/16/2016	05/16/2016
SB04-SS-25	K162102-05	Soil	05/16/2016	05/16/2016
SB04-SS-30	K162102-06	Soil	05/16/2016	05/16/2016
SB04-SS-35	K162102-07	Soil	05/16/2016	05/16/2016
SB04-SS-40	K162102-08	Soil	05/16/2016	05/16/2016
FD4-SS	K162102-09	Soil	05/16/2016	05/16/2016
SB05-SS-05	K162103-01	Soil	05/17/2016	05/17/2016
SB05-SS-10	K162103-02	Soil	05/17/2016	05/17/2016
SB05-SS-15	K162103-03	Soil	05/17/2016	05/17/2016
SB05-SS-20	K162103-04	Soil	05/17/2016	05/17/2016
SB05-SS-25	K162103-05	Soil	05/17/2016	05/17/2016
SB05-SS-30	K162103-06	Soil	05/17/2016	05/17/2016



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SB05-SS-35	K162103-07	Soil	05/17/2016	05/17/2016
SB05-SS-40	K162103-08	Soil	05/17/2016	05/17/2016
SB05-SS-45	K162103-09	Soil	05/17/2016	05/17/2016
SB05-SS-50	K162103-10	Soil	05/17/2016	05/17/2016
FD5-SS	K162103-11	Soil	05/17/2016	05/17/2016
SB06-SS-05	K162104-01	Soil	05/18/2016	05/19/2016
SB06-SS-10	K162104-02	Soil	05/18/2016	05/19/2016
SB06-SS-15	K162104-03	Soil	05/18/2016	05/19/2016
SB06-SS-21	K162104-04	Soil	05/18/2016	05/19/2016
SB06-SS-25	K162104-05	Soil	05/18/2016	05/19/2016
SB06-SS-30	K162104-06	Soil	05/18/2016	05/19/2016
SB06-SS-35	K162104-07	Soil	05/18/2016	05/19/2016
SB06-SS-40	K162104-08	Soil	05/18/2016	05/19/2016
SB06-SS-45	K162104-09	Soil	05/18/2016	05/19/2016
SB06-SS-50	K162104-10	Soil	05/18/2016	05/19/2016
SB06-SS-56	K162104-11	Soil	05/18/2016	05/19/2016
FD6-SS	K162104-12	Soil	05/18/2016	05/19/2016
SB06-SS-61	K162104-13	Soil	05/19/2016	05/19/2016
SB06-SS-65	K162104-14	Soil	05/19/2016	05/19/2016
SB06-SS-70	K162104-15	Soil	05/19/2016	05/19/2016
SB06-SS-75	K162104-16	Soil	05/19/2016	05/19/2016
SB07-SS-05	K162105-01	Soil	05/20/2016	05/20/2016
SB07-SS-10	K162105-02	Soil	05/20/2016	05/20/2016
SB07-SS-15	K162105-03	Soil	05/20/2016	05/20/2016
SB07-SS-20	K162105-04	Soil	05/20/2016	05/20/2016
SB07-SS-25	K162105-05	Soil	05/20/2016	05/20/2016
SB07-SS-30	K162105-06	Soil	05/20/2016	05/20/2016
SB07-SS-35	K162105-07	Soil	05/20/2016	05/20/2016
SB07-SS-40	K162105-08	Soil	05/20/2016	05/20/2016
SB07-SS-45	K162105-09	Soil	05/20/2016	05/20/2016
SB07-SS-50	K162105-10	Soil	05/20/2016	05/20/2016



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SB07-SS-55	K162105-11	Soil	05/20/2016	05/20/2016
SB07-SS-60	K162105-12	Soil	05/20/2016	05/20/2016
SB07-SS-65	K162105-13	Soil	05/20/2016	05/20/2016
FD7-SS	K162105-14	Soil	05/20/2016	05/20/2016
SB07-SS-70	K162105-15	Soil	05/20/2016	05/20/2016
SB07-SS-75	K162105-16	Soil	05/20/2016	05/20/2016
MW5-SS-05	K162106-01	Soil	05/20/2016	05/21/2016
MW5-SS-10	K162106-02	Soil	05/20/2016	05/21/2016
MW5-SS-15	K162106-03	Soil	05/20/2016	05/21/2016
MW5-SS-20	K162106-04	Soil	05/20/2016	05/21/2016
MW5-SS-25	K162106-05	Soil	05/20/2016	05/21/2016
MW5-SS-27	K162106-06	Soil	05/20/2016	05/21/2016
MW5-SS-30	K162106-07	Soil	05/20/2016	05/21/2016
MW5-SS-35	K162106-08	Soil	05/20/2016	05/21/2016
MW5-SS-40	K162106-09	Soil	05/20/2016	05/21/2016
MW5-SS-45	K162106-10	Soil	05/20/2016	05/21/2016
MW5-SS-50	K162106-11	Soil	05/20/2016	05/21/2016
MW5-SS-55	K162106-12	Soil	05/20/2016	05/21/2016
FD8-SS	K162106-13	Soil	05/20/2016	05/21/2016
SB08-SS-05	K162201-01	Soil	05/23/2016	05/23/2016
SB08-SS-10	K162201-02	Soil	05/23/2016	05/23/2016
SB08-SS-15	K162201-03	Soil	05/23/2016	05/23/2016
SB08-SS-20	K162201-04	Soil	05/23/2016	05/23/2016
SB08-SS-25	K162201-05	Soil	05/23/2016	05/23/2016
SB08-SS-30	K162201-06	Soil	05/23/2016	05/23/2016
SB08-SS-35	K162201-07	Soil	05/23/2016	05/23/2016
SB08-SS-40	K162201-08	Soil	05/23/2016	05/23/2016
SB08-SS-45	K162201-09	Soil	05/23/2016	05/23/2016
SB08-SS-50	K162201-10	Soil	05/23/2016	05/23/2016
FD9-SS	K162201-11	Soil	05/23/2016	05/23/2016
SB09-SS-05	K162202-01	Soil	05/23/2016	05/24/2016



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB09-SS-10	K162202-02	Soil	05/23/2016	05/24/2016
SB09-SS-15	K162202-03	Soil	05/23/2016	05/24/2016
SB09-SS-20	K162202-04	Soil	05/23/2016	05/24/2016
SB09-SS-25	K162202-05	Soil	05/23/2016	05/24/2016
SB09-SS-30	K162202-06	Soil	05/23/2016	05/24/2016
SB09-SS-35	K162202-07	Soil	05/23/2016	05/24/2016
SB09-SS-39	K162202-08	Soil	05/23/2016	05/24/2016
FD10-SS	K162202-09	Soil	05/23/2016	05/24/2016
SB10-SS-05	K162202-10	Soil	05/24/2016	05/24/2016
SB10-SS-10	K162202-11	Soil	05/24/2016	05/24/2016
SB10-SS-15	K162202-12	Soil	05/24/2016	05/24/2016
SB10-SS-20	K162202-13	Soil	05/24/2016	05/24/2016
SB10-SS-25	K162202-14	Soil	05/24/2016	05/24/2016
SB10-SS-30	K162202-15	Soil	05/24/2016	05/24/2016
SB10-SS-35	K162202-16	Soil	05/24/2016	05/24/2016
SB10-SS-40	K162202-17	Soil	05/24/2016	05/24/2016
SB10-SS-45	K162202-18	Soil	05/24/2016	05/24/2016
FD11-SS	K162202-19	Soil	05/24/2016	05/24/2016
SB12-SS-05	K162203-01	Soil	05/25/2016	05/25/2016
SB12-SS-10	K162203-02	Soil	05/25/2016	05/25/2016
SB12-SS-15	K162203-03	Soil	05/25/2016	05/25/2016
SB12-SS-20	K162203-04	Soil	05/25/2016	05/25/2016
SB12-SS-25	K162203-05	Soil	05/25/2016	05/25/2016
SB12-SS-30	K162203-06	Soil	05/25/2016	05/25/2016
SB12-SS-35	K162203-07	Soil	05/25/2016	05/25/2016
SB12-SS-40	K162203-08	Soil	05/25/2016	05/25/2016
SB12-SS-45	K162203-09	Soil	05/25/2016	05/25/2016
SB12-SS-50	K162203-10	Soil	05/25/2016	05/25/2016
SB12-SS-55	K162203-11	Soil	05/25/2016	05/25/2016
FD12-SS	K162203-12	Soil	05/25/2016	05/25/2016
SB11-SS-05	K162203-13	Soil	05/25/2016	05/25/2016



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SB11-SS-10	K162203-14	Soil	05/25/2016	05/25/2016
SB11-SS-15	K162203-15	Soil	05/25/2016	05/25/2016
SB11-SS-20	K162203-16	Soil	05/25/2016	05/25/2016
SB11-SS-25	K162203-17	Soil	05/25/2016	05/25/2016
SB11-SS-30	K162203-18	Soil	05/25/2016	05/25/2016
SB11-SS-35	K162203-19	Soil	05/25/2016	05/25/2016
SB11-SS-40	K162203-20	Soil	05/25/2016	05/25/2016
SB11-SS-45	K162203-21	Soil	05/25/2016	05/25/2016
SB11-SS-50	K162203-22	Soil	05/25/2016	05/25/2016
SB11-SS-55	K162203-23	Soil	05/25/2016	05/25/2016
SB11-SS-60	K162203-24	Soil	05/25/2016	05/25/2016
SB11-SS-65	K162203-25	Soil	05/25/2016	05/25/2016
FD13-SS	K162203-26	Soil	05/25/2016	05/25/2016
SB13-SS-05	K162204-01	Soil	05/26/2016	05/26/2016
SB13-SS-10	K162204-02	Soil	05/26/2016	05/26/2016
SB13-SS-15	K162204-03	Soil	05/26/2016	05/26/2016
SB13-SS-20	K162204-04	Soil	05/26/2016	05/26/2016
SB13-SS-25	K162204-05	Soil	05/26/2016	05/26/2016
SB13-SS-30	K162204-06	Soil	05/26/2016	05/26/2016
SB13-SS-35	K162204-07	Soil	05/26/2016	05/26/2016
SB13-SS-40	K162204-08	Soil	05/26/2016	05/26/2016
SB13-SS-45	K162204-09	Soil	05/26/2016	05/26/2016
SB13-SS-50	K162204-10	Soil	05/26/2016	05/26/2016
SB13-SS-55	K162204-11	Soil	05/26/2016	05/26/2016
SB13-SS-60	K162204-12	Soil	05/26/2016	05/26/2016
SB13-SS-63	K162204-13	Soil	05/26/2016	05/26/2016
FD-14-SS	K162204-14	Soil	05/26/2016	05/26/2016
SB14-SS-05	K162204-15	Soil	05/26/2016	05/26/2016
SB14-SS-10	K162204-16	Soil	05/26/2016	05/26/2016
SB14-SS-15	K162204-17	Soil	05/26/2016	05/26/2016
SB14-SS-20	K162204-18	Soil	05/26/2016	05/26/2016



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB14-SS-25	K162204-19	Soil	05/26/2016	05/26/2016
SB14-SS-30	K162204-20	Soil	05/26/2016	05/26/2016
SB14-SS-35	K162204-21	Soil	05/26/2016	05/26/2016
SB14-SS-40	K162204-22	Soil	05/26/2016	05/26/2016
SB14-SS-45	K162204-23	Soil	05/26/2016	05/26/2016
FD15-SS	K162204-24	Soil	05/26/2016	05/26/2016
SB14-SS-50	K162204-25	Soil	05/26/2016	05/26/2016
SB14-SS-54	K162204-26	Soil	05/26/2016	05/26/2016



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MW3-SS-5

Date Sampled

K162001-01 (Soil)

05/10/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/10/2016	05/10/2016 17:25	EPA 8260B	



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MW3-SS-5

K162001-01 (Soil)

Date Sampled
05/10/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	90.4 %	44.1-130	05/10/2016	05/10/2016 17:25	EPA 8260B
Surrogate: Toluene-d8	94.2 %	42-136	05/10/2016	05/10/2016 17:25	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.6 %	54.2-145	05/10/2016	05/10/2016 17:25	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	82.8	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B
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MW3-SS-10
K162001-02 (Soil)

Date Sampled
 05/10/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Methylene chloride	ND	0.090	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	05/10/2016	05/10/2016 17:51	EPA 8260B	



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MW3-SS-10
K162001-02 (Soil)

Date Sampled
 05/10/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	85.0 %		44.1-130		05/10/2016	05/10/2016 17:51	EPA 8260B	
Surrogate: Toluene-d8	89.6 %		42-136		05/10/2016	05/10/2016 17:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	87.2 %		54.2-145		05/10/2016	05/10/2016 17:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	83.5	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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 Project Number: 2754

MW3-SS-15
K162001-03 (Soil)

Date Sampled
 05/10/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Chloromethane	ND	0.043	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
m,p-Xylene	ND	0.043	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Methylene chloride	ND	0.087	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	
Xylenes, total	ND	0.065	mg/kg dry	1	05/10/2016	05/10/2016 18:16	EPA 8260B	



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MW3-SS-15
K162001-03 (Soil)

Date Sampled
 05/10/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	95.6 %		44.1-130		05/10/2016	05/10/2016 18:16	EPA 8260B	
Surrogate: Toluene-d8	96.2 %		42-136		05/10/2016	05/10/2016 18:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.3 %		54.2-145		05/10/2016	05/10/2016 18:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	79.1	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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MW3-SS-20
K162001-04 (Soil)

Date Sampled
05/10/2016 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	
Xylenes, total	ND	0.084	mg/kg dry	1	05/10/2016	05/10/2016 18:42	EPA 8260B	



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MW3-SS-20
K162001-04 (Soil)

Date Sampled
 05/10/2016 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	92.0 %		44.1-130		05/10/2016	05/10/2016 18:42	EPA 8260B	
Surrogate: Toluene-d8	96.2 %		42-136		05/10/2016	05/10/2016 18:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	101 %		54.2-145		05/10/2016	05/10/2016 18:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	65.4	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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MW3-SS-25
K162001-05 (Soil)

Date Sampled
 05/10/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,1,2-Trichloroethane	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,1-Dichloroethane	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,1-Dichloroethene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,2-Dichlorobenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,2-Dichloroethane	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,3-Dichlorobenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
1,4-Dichlorobenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
2-Chlorotoluene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
4-Chlorotoluene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Benzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Carbon tetrachloride	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Chlorobenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Chloroform	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Chloromethane	ND	0.068	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Ethylbenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Isopropylbenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
m,p-Xylene	ND	0.068	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Methylene chloride	ND	0.14	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Naphthalene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
n-Butyl Benzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
n-Propyl Benzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
o-Xylene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
p-Isopropyltoluene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
sec-Butyl Benzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Styrene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
tert-Butylbenzene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Tetrachloroethene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Toluene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Trichloroethene	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Vinyl chloride	ND	0.034	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	
Xylenes, total	ND	0.10	mg/kg dry	1	05/10/2016	05/10/2016 20:24	EPA 8260B	



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MW3-SS-25
K162001-05 (Soil)

Date Sampled
05/10/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	86.1 %		44.1-130		05/10/2016	05/10/2016 20:24	EPA 8260B	
Surrogate: Toluene-d8	89.6 %		42-136		05/10/2016	05/10/2016 20:24	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	90.7 %		54.2-145		05/10/2016	05/10/2016 20:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	67.6	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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 Project Number: 2754

MW3-SS-30
K162001-06 (Soil)

Date Sampled
 05/10/2016 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,1,2-Trichloroethane	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,1-Dichloroethane	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,1-Dichloroethene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,2-Dichlorobenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,2-Dichloroethane	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,3-Dichlorobenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
1,4-Dichlorobenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
2-Chlorotoluene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
4-Chlorotoluene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Benzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Carbon tetrachloride	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Chlorobenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Chloroform	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Chloromethane	ND	0.067	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Ethylbenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Isopropylbenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
m,p-Xylene	ND	0.067	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Methylene chloride	ND	0.13	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Naphthalene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
n-Butyl Benzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
n-Propyl Benzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
o-Xylene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
p-Isopropyltoluene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
sec-Butyl Benzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Styrene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
tert-Butylbenzene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Tetrachloroethene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Toluene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Trichloroethene	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Vinyl chloride	ND	0.033	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	
Xylenes, total	ND	0.10	mg/kg dry	1	05/10/2016	05/10/2016 20:50	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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MW3-SS-30

K162001-06 (Soil)

Date Sampled
05/10/2016 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	97.7 %	44.1-130	05/10/2016	05/10/2016 20:50	EPA 8260B
Surrogate: Toluene-d8	101 %	42-136	05/10/2016	05/10/2016 20:50	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	05/10/2016	05/10/2016 20:50	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	67.6	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW3-SS-35
K162001-07 (Soil)

Date Sampled
05/10/2016 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/10/2016	05/10/2016 21:15	EPA 8260B	



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 Project Number: 2754

MW3-SS-35
K162001-07 (Soil)

Date Sampled
 05/10/2016 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	92.6 %		44.1-130		05/10/2016	05/10/2016 21:15	EPA 8260B	
Surrogate: Toluene-d8	95.1 %		42-136		05/10/2016	05/10/2016 21:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.5 %		54.2-145		05/10/2016	05/10/2016 21:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	66.7	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW3-SS-40
K162001-08 (Soil)

Date Sampled
 05/10/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/10/2016	05/10/2016 21:41	EPA 8260B	



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MW3-SS-40
K162001-08 (Soil)

Date Sampled
05/10/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	102 %		44.1-130		05/10/2016	05/10/2016 21:41	EPA 8260B	
Surrogate: Toluene-d8	108 %		42-136		05/10/2016	05/10/2016 21:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	108 %		54.2-145		05/10/2016	05/10/2016 21:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	69.0	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
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MW3-SS-45
K162001-09 (Soil)

Date Sampled
 05/10/2016 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/10/2016	05/10/2016 22:07	EPA 8260B	



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MW3-SS-45
K162001-09 (Soil)

Date Sampled
05/10/2016 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K605002			
Surrogate: 1-Bromo-2-chloroethane	104 %		44.1-130		05/10/2016	05/10/2016 22:07	EPA 8260B
Surrogate: Toluene-d8	109 %		42-136		05/10/2016	05/10/2016 22:07	EPA 8260B
Surrogate: 4-Bromofluorobenzene	109 %		54.2-145		05/10/2016	05/10/2016 22:07	EPA 8260B

Classical Chemistry Parameters				Preparation Batch: K605003			
% Solids	75.1	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B



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 Project Number: 2754

MW3-SS-50
K162001-10 (Soil)

Date Sampled
 05/10/2016 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
4-Chlorotoluene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Benzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Chloromethane	ND	0.058	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
m,p-Xylene	ND	0.058	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
n-Butyl Benzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
o-Xylene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	
Xylenes, total	ND	0.087	mg/kg dry	1	05/10/2016	05/10/2016 22:32	EPA 8260B	



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MW3-SS-50

K162001-10 (Soil)

Date Sampled
05/10/2016 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	86.2 %	44.1-130	05/10/2016	05/10/2016 22:32	EPA 8260B
Surrogate: Toluene-d8	91.5 %	42-136	05/10/2016	05/10/2016 22:32	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.0 %	54.2-145	05/10/2016	05/10/2016 22:32	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	61.4	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B
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Project Number: 2754

MW3-SS-55
K162001-11 (Soil)

Date Sampled
05/10/2016 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/10/2016	05/10/2016 22:58	EPA 8260B	



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MW3-SS-55
K162001-11 (Soil)

Date Sampled
 05/10/2016 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605002

Surrogate: 1-Bromo-2-chloroethane	101 %		44.1-130		05/10/2016	05/10/2016 22:58	EPA 8260B	
Surrogate: Toluene-d8	105 %		42-136		05/10/2016	05/10/2016 22:58	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	108 %		54.2-145		05/10/2016	05/10/2016 22:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605003

% Solids	74.4	0.00	% by Weight	1	05/10/2016	05/10/2016 16:17	SM 2540B	
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SB01-SS-5
K162002-01 (Soil)

Date Sampled
05/11/2016 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	05/11/2016	05/11/2016 17:53	EPA 8260B	



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SB01-SS-5

K162002-01 (Soil)

Date Sampled
05/11/2016 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	85.2 %	44.1-130	05/11/2016	05/11/2016 17:53	EPA 8260B
Surrogate: Toluene-d8	91.5 %	42-136	05/11/2016	05/11/2016 17:53	EPA 8260B
Surrogate: 4-Bromofluorobenzene	88.2 %	54.2-145	05/11/2016	05/11/2016 17:53	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	80.2	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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 Project Number: 2754

SB01-SS-10
K162002-02 (Soil)

Date Sampled
 05/11/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	05/11/2016	05/11/2016 18:19	EPA 8260B	



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 Project Number: 2754

SB01-SS-10
K162002-02 (Soil)

Date Sampled
 05/11/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	87.0 %		44.1-130		05/11/2016	05/11/2016 18:19	EPA 8260B	
Surrogate: Toluene-d8	90.0 %		42-136		05/11/2016	05/11/2016 18:19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	93.3 %		54.2-145		05/11/2016	05/11/2016 18:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	68.7	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB01-SS-15
K162002-03 (Soil)

Date Sampled
 05/11/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	05/11/2016	05/11/2016 18:44	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB01-SS-15
K162002-03 (Soil)

Date Sampled
 05/11/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	111 %	44.1-130	05/11/2016	05/11/2016 18:44	EPA 8260B
Surrogate: Toluene-d8	111 %	42-136	05/11/2016	05/11/2016 18:44	EPA 8260B
Surrogate: 4-Bromofluorobenzene	120 %	54.2-145	05/11/2016	05/11/2016 18:44	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	70.0	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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 Project Number: 2754

SB01-SS-20
K162002-04 (Soil)

Date Sampled
 05/11/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/11/2016	05/11/2016 19:10	EPA 8260B	



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SB01-SS-20
K162002-04 (Soil)

Date Sampled
 05/11/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K605005				
Surrogate: 1-Bromo-2-chloroethane	82.5 %	44.1-130	05/11/2016	05/11/2016 19:10	EPA 8260B
Surrogate: Toluene-d8	86.6 %	42-136	05/11/2016	05/11/2016 19:10	EPA 8260B
Surrogate: 4-Bromofluorobenzene	88.9 %	54.2-145	05/11/2016	05/11/2016 19:10	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K605004						
% Solids	65.8	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B



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SB01-SS-25
K162002-05 (Soil)

Date Sampled
05/11/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/11/2016	05/11/2016 19:36	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB01-SS-25
K162002-05 (Soil)

Date Sampled
 05/11/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	79.9 %	44.1-130	05/11/2016	05/11/2016 19:36	EPA 8260B
Surrogate: Toluene-d8	84.9 %	42-136	05/11/2016	05/11/2016 19:36	EPA 8260B
Surrogate: 4-Bromofluorobenzene	90.5 %	54.2-145	05/11/2016	05/11/2016 19:36	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	67.3	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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Project Number: 2754

SB01-SS-30
K162002-06 (Soil)

Date Sampled
05/11/2016 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	
Xylenes, total	ND	0.084	mg/kg dry	1	05/11/2016	05/11/2016 20:01	EPA 8260B	



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 Project Number: 2754

SB01-SS-30
K162002-06 (Soil)

Date Sampled
 05/11/2016 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	98.4 %		44.1-130		05/11/2016	05/11/2016 20:01	EPA 8260B	
Surrogate: Toluene-d8	101 %		42-136		05/11/2016	05/11/2016 20:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	106 %		54.2-145		05/11/2016	05/11/2016 20:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	66.1	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B	
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 Project Number: 2754

SB01-SS-35
K162002-07 (Soil)

Date Sampled
05/11/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/11/2016	05/11/2016 20:27	EPA 8260B	



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SB01-SS-35

K162002-07 (Soil)

Date Sampled
05/11/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	87.1 %	44.1-130	05/11/2016	05/11/2016 20:27	EPA 8260B
Surrogate: Toluene-d8	90.8 %	42-136	05/11/2016	05/11/2016 20:27	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.5 %	54.2-145	05/11/2016	05/11/2016 20:27	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	71.7	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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SB01-SS-40
K162002-08 (Soil)

Date Sampled
 05/11/2016 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/11/2016	05/11/2016 20:53	EPA 8260B	



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 Project Number: 2754

SB01-SS-40
K162002-08 (Soil)

Date Sampled
 05/11/2016 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	103 %		44.1-130		05/11/2016	05/11/2016 20:53	EPA 8260B	
Surrogate: Toluene-d8	107 %		42-136		05/11/2016	05/11/2016 20:53	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	113 %		54.2-145		05/11/2016	05/11/2016 20:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	73.9	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB01-SS-45
K162002-09 (Soil)

Date Sampled
 05/11/2016 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/11/2016	05/11/2016 21:18	EPA 8260B	



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SB01-SS-45

K162002-09 (Soil)

Date Sampled
05/11/2016 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	87.8 %	44.1-130	05/11/2016	05/11/2016 21:18	EPA 8260B
Surrogate: Toluene-d8	89.6 %	42-136	05/11/2016	05/11/2016 21:18	EPA 8260B
Surrogate: 4-Bromofluorobenzene	101 %	54.2-145	05/11/2016	05/11/2016 21:18	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	70.5	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB01-SS-47
K162002-10 (Soil)

Date Sampled
05/11/2016 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/11/2016	05/11/2016 23:00	EPA 8260B	



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SB01-SS-47

K162002-10 (Soil)

Date Sampled
05/11/2016 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	101 %	44.1-130	05/11/2016	05/11/2016 23:00	EPA 8260B
Surrogate: Toluene-d8	104 %	42-136	05/11/2016	05/11/2016 23:00	EPA 8260B
Surrogate: 4-Bromofluorobenzene	107 %	54.2-145	05/11/2016	05/11/2016 23:00	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	70.5	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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 Project Number: 2754

FD1-SS
K162002-11 (Soil)

Date Sampled
05/11/2016 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	05/11/2016	05/11/2016 23:26	EPA 8260B	



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FD1-SS

K162002-11 (Soil)

Date Sampled
05/11/2016 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	85.7 %	44.1-130	05/11/2016	05/11/2016 23:26	EPA 8260B
Surrogate: Toluene-d8	91.1 %	42-136	05/11/2016	05/11/2016 23:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	90.6 %	54.2-145	05/11/2016	05/11/2016 23:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	80.4	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B
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 Project Number: 2754

FD2-SS
K162002-12 (Soil)

Date Sampled
05/11/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/11/2016	05/11/2016 23:51	EPA 8260B	



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 Project Number: 2754

FD2-SS

K162002-12 (Soil)

Date Sampled
 05/11/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605005

Surrogate: 1-Bromo-2-chloroethane	91.8 %		44.1-130		05/11/2016	05/11/2016 23:51	EPA 8260B	
Surrogate: Toluene-d8	94.3 %		42-136		05/11/2016	05/11/2016 23:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.7 %		54.2-145		05/11/2016	05/11/2016 23:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605004

% Solids	73.9	0.00	% by Weight	1	05/11/2016	05/12/2016 08:14	SM 2540B	
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 Project Number: 2754

SB02-SS-5
K162003-01 (Soil)

Date Sampled
05/12/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/12/2016	05/12/2016 15:42	EPA 8260B	



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SB02-SS-5

Date Sampled

K162003-01 (Soil)

05/12/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	103 %		44.1-130		05/12/2016	05/12/2016 15:42	EPA 8260B	
Surrogate: Toluene-d8	116 %		42-136		05/12/2016	05/12/2016 15:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	108 %		54.2-145		05/12/2016	05/12/2016 15:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	83.2	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B	
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 Project Number: 2754

SB02-SS-10
K162003-02 (Soil)

Date Sampled
 05/12/2016 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/12/2016	05/12/2016 16:07	EPA 8260B	



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SB02-SS-10
K162003-02 (Soil)

Date Sampled
 05/12/2016 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	91.6 %		44.1-130		05/12/2016	05/12/2016 16:07	EPA 8260B	
Surrogate: Toluene-d8	98.3 %		42-136		05/12/2016	05/12/2016 16:07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	93.4 %		54.2-145		05/12/2016	05/12/2016 16:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	79.1	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB02-SS-15
K162003-03 (Soil)

Date Sampled
 05/12/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/12/2016	05/12/2016 16:33	EPA 8260B	



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SB02-SS-15
K162003-03 (Soil)

Date Sampled
 05/12/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	129 %	44.1-130	05/12/2016	05/12/2016 16:33	EPA 8260B
Surrogate: Toluene-d8	133 %	42-136	05/12/2016	05/12/2016 16:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene	129 %	54.2-145	05/12/2016	05/12/2016 16:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	71.1	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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 Project Number: 2754

SB02-SS-20
K162003-04 (Soil)

Date Sampled
05/12/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	05/12/2016	05/12/2016 16:58	EPA 8260B	



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SB02-SS-20
K162003-04 (Soil)

Date Sampled
 05/12/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	110 %	44.1-130	05/12/2016	05/12/2016 16:58	EPA 8260B
Surrogate: Toluene-d8	116 %	42-136	05/12/2016	05/12/2016 16:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	114 %	54.2-145	05/12/2016	05/12/2016 16:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	65.9	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB02-SS-25
K162003-05 (Soil)

Date Sampled
05/12/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	05/12/2016	05/12/2016 17:24	EPA 8260B	



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SB02-SS-25

K162003-05 (Soil)

Date Sampled
05/12/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	128 %	44.1-130	05/12/2016	05/12/2016 17:24	EPA 8260B
Surrogate: Toluene-d8	129 %	42-136	05/12/2016	05/12/2016 17:24	EPA 8260B
Surrogate: 4-Bromofluorobenzene	130 %	54.2-145	05/12/2016	05/12/2016 17:24	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	70.6	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB02-SS-30
K162003-06 (Soil)

Date Sampled
05/12/2016 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/12/2016	05/12/2016 17:49	EPA 8260B	



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SB02-SS-30

K162003-06 (Soil)

Date Sampled
05/12/2016 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	114 %	44.1-130	05/12/2016	05/12/2016 17:49	EPA 8260B
Surrogate: Toluene-d8	118 %	42-136	05/12/2016	05/12/2016 17:49	EPA 8260B
Surrogate: 4-Bromofluorobenzene	116 %	54.2-145	05/12/2016	05/12/2016 17:49	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	64.8	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB02-SS-35
K162003-07 (Soil)

Date Sampled
 05/12/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	05/12/2016	05/12/2016 18:15	EPA 8260B	



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SB02-SS-35
K162003-07 (Soil)

Date Sampled
 05/12/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	99.5 %	44.1-130	05/12/2016	05/12/2016 18:15	EPA 8260B
Surrogate: Toluene-d8	103 %	42-136	05/12/2016	05/12/2016 18:15	EPA 8260B
Surrogate: 4-Bromofluorobenzene	100 %	54.2-145	05/12/2016	05/12/2016 18:15	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	64.4	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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 Project Number: 2754

SB02-SS-40
K162003-08 (Soil)

Date Sampled
 05/12/2016 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/12/2016	05/12/2016 18:40	EPA 8260B	



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SB02-SS-40

K162003-08 (Soil)

Date Sampled
05/12/2016 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	100 %	44.1-130	05/12/2016	05/12/2016 18:40	EPA 8260B
Surrogate: Toluene-d8	107 %	42-136	05/12/2016	05/12/2016 18:40	EPA 8260B
Surrogate: 4-Bromofluorobenzene	108 %	54.2-145	05/12/2016	05/12/2016 18:40	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	71.0	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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 Project Number: 2754

SB02-SS-45
K162003-09 (Soil)

Date Sampled
 05/12/2016 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/12/2016	05/12/2016 19:06	EPA 8260B	



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SB02-SS-45
K162003-09 (Soil)

Date Sampled
 05/12/2016 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	117 %	44.1-130	05/12/2016	05/12/2016 19:06	EPA 8260B
Surrogate: Toluene-d8	122 %	42-136	05/12/2016	05/12/2016 19:06	EPA 8260B
Surrogate: 4-Bromofluorobenzene	120 %	54.2-145	05/12/2016	05/12/2016 19:06	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	69.3	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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SB02-SS-50
K162003-10 (Soil)

Date Sampled
05/12/2016 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/12/2016	05/12/2016 20:48	EPA 8260B	



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SB02-SS-50
K162003-10 (Soil)

Date Sampled
 05/12/2016 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

Surrogate: 1-Bromo-2-chloroethane	96.9 %		44.1-130		05/12/2016	05/12/2016 20:48	EPA 8260B	
Surrogate: Toluene-d8	102 %		42-136		05/12/2016	05/12/2016 20:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.4 %		54.2-145		05/12/2016	05/12/2016 20:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	67.8	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B	
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 Project Number: 2754

SB02-SS-55
K162003-11 (Soil)

Date Sampled
05/12/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/12/2016	05/12/2016 21:13	EPA 8260B	



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SB02-SS-55
K162003-11 (Soil)

Date Sampled
05/12/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K605007			
Surrogate: 1-Bromo-2-chloroethane	91.4 %		44.1-130		05/12/2016	05/12/2016 21:13	EPA 8260B
Surrogate: Toluene-d8	99.7 %		42-136		05/12/2016	05/12/2016 21:13	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.7 %		54.2-145		05/12/2016	05/12/2016 21:13	EPA 8260B

Classical Chemistry Parameters				Preparation Batch: K605006			
% Solids	64.6	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

FD3-SS
K162003-12 (Soil)

Date Sampled
05/12/2016 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/12/2016	05/12/2016 21:39	EPA 8260B	



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FD3-SS
K162003-12 (Soil)

Date Sampled
05/12/2016 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605007

<i>Surrogate: 1-Bromo-2-chloroethane</i>	107 %		44.1-130		05/12/2016	05/12/2016 21:39	EPA 8260B
<i>Surrogate: Toluene-d8</i>	112 %		42-136		05/12/2016	05/12/2016 21:39	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene</i>	115 %		54.2-145		05/12/2016	05/12/2016 21:39	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605006

% Solids	69.5	0.00	% by Weight	1	05/12/2016	05/13/2016 08:33	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB02-SS-60
K162004-01 (Soil)

Date Sampled
05/12/2016 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	E1
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	E1
Benzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	E1
o-Xylene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/13/2016	05/13/2016 10:35	EPA 8260B	



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SB02-SS-60
K162004-01 (Soil)

Date Sampled
 05/12/2016 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

Surrogate: 1-Bromo-2-chloroethane	84.5 %	44.1-130	05/13/2016	05/13/2016 10:35	EPA 8260B
Surrogate: Toluene-d8	92.0 %	42-136	05/13/2016	05/13/2016 10:35	EPA 8260B
Surrogate: 4-Bromofluorobenzene	90.8 %	54.2-145	05/13/2016	05/13/2016 10:35	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	68.3	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB02-SS-65
K162004-02 (Soil)

Date Sampled
 05/12/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	E1
4-Chlorotoluene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	E1
Benzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Chloromethane	ND	0.059	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
m,p-Xylene	ND	0.059	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
n-Butyl Benzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	E1
o-Xylene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	
Xylenes, total	ND	0.088	mg/kg dry	1	05/13/2016	05/13/2016 11:01	EPA 8260B	



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SB02-SS-65
K162004-02 (Soil)

Date Sampled
05/12/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

Surrogate: 1-Bromo-2-chloroethane	87.7 %		44.1-130		05/13/2016	05/13/2016 11:01	EPA 8260B	
Surrogate: Toluene-d8	90.7 %		42-136		05/13/2016	05/13/2016 11:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	89.8 %		54.2-145		05/13/2016	05/13/2016 11:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	71.9	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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SB02-SS-70
K162004-03 (Soil)

Date Sampled
 05/12/2016 14:21

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	E1
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	E1
Benzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	E1
o-Xylene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	05/13/2016	05/13/2016 11:26	EPA 8260B	



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SB02-SS-70

K162004-03 (Soil)

Date Sampled
05/12/2016 14:21

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

Surrogate: 1-Bromo-2-chloroethane	78.6 %	44.1-130	05/13/2016	05/13/2016 11:26	EPA 8260B
Surrogate: Toluene-d8	84.3 %	42-136	05/13/2016	05/13/2016 11:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	83.6 %	54.2-145	05/13/2016	05/13/2016 11:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	65.1	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B
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 Project Number: 2754

SB02-SS-75
K162004-04 (Soil)

Date Sampled
 05/12/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	E1
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	E1
Benzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	E1
o-Xylene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/13/2016	05/13/2016 11:52	EPA 8260B	



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SB02-SS-75
K162004-04 (Soil)

Date Sampled
 05/12/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605008

Surrogate: 1-Bromo-2-chloroethane	93.2 %		44.1-130		05/13/2016	05/13/2016 11:52	EPA 8260B	
Surrogate: Toluene-d8	97.3 %		42-136		05/13/2016	05/13/2016 11:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	86.0 %		54.2-145		05/13/2016	05/13/2016 11:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	91.1	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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Project Number: 2754

SB03-SS-05
K162101-01 (Soil)

Date Sampled
05/13/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/16/2016	05/16/2016 20:03	EPA 8260B	



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SB03-SS-05
K162101-01 (Soil)

Date Sampled
 05/13/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	87.8 %		44.1-130		05/16/2016	05/16/2016 20:03	EPA 8260B	
Surrogate: Toluene-d8	91.5 %		42-136		05/16/2016	05/16/2016 20:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	88.5 %		54.2-145		05/16/2016	05/16/2016 20:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	79.5	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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 Project Number: 2754

SB03-SS-10
K162101-02 (Soil)

Date Sampled
 05/13/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/16/2016	05/16/2016 20:28	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB03-SS-10
K162101-02 (Soil)

Date Sampled
 05/13/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	92.1 %		44.1-130		05/16/2016	05/16/2016 20:28	EPA 8260B	
Surrogate: Toluene-d8	95.7 %		42-136		05/16/2016	05/16/2016 20:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	92.7 %		54.2-145		05/16/2016	05/16/2016 20:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	67.5	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB03-SS-15
K162101-03 (Soil)

Date Sampled
 05/13/2016 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/16/2016	05/16/2016 20:54	EPA 8260B	



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SB03-SS-15
K162101-03 (Soil)

Date Sampled
 05/13/2016 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	99.8 %		44.1-130		05/16/2016	05/16/2016 20:54	EPA 8260B	
Surrogate: Toluene-d8	104 %		42-136		05/16/2016	05/16/2016 20:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	100 %		54.2-145		05/16/2016	05/16/2016 20:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	68.7	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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 Project Number: 2754

SB03-SS-20
K162101-04 (Soil)

Date Sampled
 05/13/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	
Xylenes, total	ND	0.084	mg/kg dry	1	05/16/2016	05/16/2016 21:19	EPA 8260B	



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SB03-SS-20
K162101-04 (Soil)

Date Sampled
 05/13/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

<i>Surrogate: 1-Bromo-2-chloroethane</i>	115 %	44.1-130	05/16/2016	05/16/2016 21:19	EPA 8260B
<i>Surrogate: Toluene-d8</i>	121 %	42-136	05/16/2016	05/16/2016 21:19	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene</i>	111 %	54.2-145	05/16/2016	05/16/2016 21:19	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	68.7	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB03-SS-25
K162101-05 (Soil)

Date Sampled
 05/13/2016 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	05/16/2016	05/16/2016 21:45	EPA 8260B	



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 Project Number: 2754

SB03-SS-25
K162101-05 (Soil)

Date Sampled
 05/13/2016 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	95.7 %		44.1-130		05/16/2016	05/16/2016 21:45	EPA 8260B	
Surrogate: Toluene-d8	100 %		42-136		05/16/2016	05/16/2016 21:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	93.1 %		54.2-145		05/16/2016	05/16/2016 21:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	62.9	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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 Project Number: 2754

SB03-SS-30
K162101-06 (Soil)

Date Sampled
 05/13/2016 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/16/2016	05/16/2016 22:10	EPA 8260B	



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SB03-SS-30

K162101-06 (Soil)

Date Sampled
05/13/2016 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	107 %	44.1-130	05/16/2016	05/16/2016 22:10	EPA 8260B
Surrogate: Toluene-d8	109 %	42-136	05/16/2016	05/16/2016 22:10	EPA 8260B
Surrogate: 4-Bromofluorobenzene	104 %	54.2-145	05/16/2016	05/16/2016 22:10	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	73.4	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B
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 Project Number: 2754

SB03-SS-35
K162101-07 (Soil)

Date Sampled
 05/13/2016 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/16/2016	05/16/2016 22:36	EPA 8260B	



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 Project Number: 2754

SB03-SS-35
K162101-07 (Soil)

Date Sampled
 05/13/2016 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	111 %		44.1-130		05/16/2016	05/16/2016 22:36	EPA 8260B	
Surrogate: Toluene-d8	114 %		42-136		05/16/2016	05/16/2016 22:36	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	108 %		54.2-145		05/16/2016	05/16/2016 22:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	66.7	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B	
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Project Number: 2754

SB03-SS-40
K162101-08 (Soil)

Date Sampled
05/13/2016 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/16/2016	05/16/2016 23:01	EPA 8260B	



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SB03-SS-40
K162101-08 (Soil)

Date Sampled
 05/13/2016 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605010

Surrogate: 1-Bromo-2-chloroethane	108 %	44.1-130	05/16/2016	05/16/2016 23:01	EPA 8260B
Surrogate: Toluene-d8	111 %	42-136	05/16/2016	05/16/2016 23:01	EPA 8260B
Surrogate: 4-Bromofluorobenzene	106 %	54.2-145	05/16/2016	05/16/2016 23:01	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605009

% Solids	75.5	0.00	% by Weight	1	05/16/2016	05/17/2016 08:19	SM 2540B
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Project Number: 2754

SB04-SS-05
K162102-01 (Soil)

Date Sampled
05/16/2016 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	05/16/2016	05/16/2016 22:20	EPA 8260B	



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SB04-SS-05

K162102-01 (Soil)

Date Sampled
05/16/2016 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	88.0 %		44.1-130		05/16/2016	05/16/2016 22:20	EPA 8260B	
Surrogate: Toluene-d8	92.4 %		42-136		05/16/2016	05/16/2016 22:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	86.4 %		54.2-145		05/16/2016	05/16/2016 22:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	80.9	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB04-SS-10
K162102-02 (Soil)

Date Sampled
 05/16/2016 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/16/2016	05/16/2016 22:47	EPA 8260B	



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SB04-SS-10

K162102-02 (Soil)

Date Sampled
05/16/2016 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	93.6 %	44.1-130	05/16/2016	05/16/2016 22:47	EPA 8260B
Surrogate: Toluene-d8	96.4 %	42-136	05/16/2016	05/16/2016 22:47	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.0 %	54.2-145	05/16/2016	05/16/2016 22:47	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	82.7	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB04-SS-15
K162102-03 (Soil)

Date Sampled
05/16/2016 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/16/2016	05/16/2016 23:13	EPA 8260B	



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SB04-SS-15
K162102-03 (Soil)

Date Sampled
05/16/2016 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	93.7 %		44.1-130		05/16/2016	05/16/2016 23:13	EPA 8260B	
Surrogate: Toluene-d8	92.3 %		42-136		05/16/2016	05/16/2016 23:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	85.8 %		54.2-145		05/16/2016	05/16/2016 23:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	70.3	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B	
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SB04-SS-20
K162102-04 (Soil)

Date Sampled
 05/16/2016 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,1-Dichloroethane	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,1-Dichloroethene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,2-Dichlorobenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,2-Dichloroethane	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,3-Dichlorobenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
1,4-Dichlorobenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
2-Chlorotoluene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
4-Chlorotoluene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Benzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Carbon tetrachloride	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Chlorobenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Chloroform	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Chloromethane	ND	0.074	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Ethylbenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Isopropylbenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
m,p-Xylene	ND	0.074	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Methylene chloride	ND	0.15	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Naphthalene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
n-Butyl Benzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
n-Propyl Benzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
o-Xylene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
p-Isopropyltoluene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
sec-Butyl Benzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Styrene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
tert-Butylbenzene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Tetrachloroethene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Toluene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Trichloroethene	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Vinyl chloride	ND	0.037	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	
Xylenes, total	ND	0.11	mg/kg dry	1	05/16/2016	05/16/2016 23:40	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB04-SS-20

K162102-04 (Soil)

Date Sampled
05/16/2016 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	95.1 %	44.1-130	05/16/2016	05/16/2016 23:40	EPA 8260B
Surrogate: Toluene-d8	97.6 %	42-136	05/16/2016	05/16/2016 23:40	EPA 8260B
Surrogate: 4-Bromofluorobenzene	87.4 %	54.2-145	05/16/2016	05/16/2016 23:40	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	69.1	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B
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Project Number: 2754

SB04-SS-25
K162102-05 (Soil)

Date Sampled
05/16/2016 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Carbon tetrachloride	0.028	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	EI
Chlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/16/2016	05/17/2016 00:07	EPA 8260B	



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SB04-SS-25

K162102-05 (Soil)

Date Sampled
05/16/2016 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K605012				
Surrogate: 1-Bromo-2-chloroethane	85.6 %	44.1-130	05/16/2016	05/17/2016 00:07	EPA 8260B
Surrogate: Toluene-d8	85.4 %	42-136	05/16/2016	05/17/2016 00:07	EPA 8260B
Surrogate: 4-Bromofluorobenzene	81.3 %	54.2-145	05/16/2016	05/17/2016 00:07	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K605011						
% Solids	68.8	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B



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Project Number: 2754

SB04-SS-30
K162102-06 (Soil)

Date Sampled
05/16/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Carbon tetrachloride	0.10	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	EI
Chlorobenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/16/2016	05/17/2016 00:33	EPA 8260B	



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SB04-SS-30
K162102-06 (Soil)

Date Sampled
 05/16/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	88.8 %		44.1-130		05/16/2016	05/17/2016 00:33	EPA 8260B	
Surrogate: Toluene-d8	91.3 %		42-136		05/16/2016	05/17/2016 00:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	84.1 %		54.2-145		05/16/2016	05/17/2016 00:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	65.5	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB04-SS-35
K162102-07 (Soil)

Date Sampled
 05/16/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Carbon tetrachloride	0.16	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	EI
Chlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/16/2016	05/17/2016 01:00	EPA 8260B	



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SB04-SS-35
K162102-07 (Soil)

Date Sampled
 05/16/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	115 %	44.1-130	05/16/2016	05/17/2016 01:00	EPA 8260B
Surrogate: Toluene-d8	119 %	42-136	05/16/2016	05/17/2016 01:00	EPA 8260B
Surrogate: 4-Bromofluorobenzene	108 %	54.2-145	05/16/2016	05/17/2016 01:00	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	72.1	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B
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 Project Number: 2754

SB04-SS-40
K162102-08 (Soil)

Date Sampled
 05/16/2016 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Carbon tetrachloride	0.10	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	EI
Chlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/16/2016	05/17/2016 01:26	EPA 8260B	



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SB04-SS-40
K162102-08 (Soil)

Date Sampled
 05/16/2016 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	112 %	44.1-130	05/16/2016	05/17/2016 01:26	EPA 8260B
Surrogate: Toluene-d8	115 %	42-136	05/16/2016	05/17/2016 01:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	110 %	54.2-145	05/16/2016	05/17/2016 01:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	68.4	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

FD4-SS
K162102-09 (Soil)

Date Sampled
 05/16/2016 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	LC
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Carbon tetrachloride	0.098	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	EI
Chlorobenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/16/2016	05/17/2016 01:52	EPA 8260B	



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 Project Number: 2754

FD4-SS

K162102-09 (Soil)

Date Sampled
 05/16/2016 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605012

Surrogate: 1-Bromo-2-chloroethane	111 %		44.1-130		05/16/2016	05/17/2016 01:52	EPA 8260B	
Surrogate: Toluene-d8	112 %		42-136		05/16/2016	05/17/2016 01:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	104 %		54.2-145		05/16/2016	05/17/2016 01:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605011

% Solids	68.1	0.00	% by Weight	1	05/16/2016	05/17/2016 08:21	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB05-SS-05
K162103-01 (Soil)

Date Sampled
05/17/2016 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	LC
Xylenes, total	ND	0.070	mg/kg dry	1	05/17/2016	05/17/2016 18:08	EPA 8260B	



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SB05-SS-05
K162103-01 (Soil)

Date Sampled
05/17/2016 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K605014			
Surrogate: 1-Bromo-2-chloroethane	93.7 %	44.1-130		05/17/2016	05/17/2016 18:08	EPA 8260B	
Surrogate: Toluene-d8	103 %	42-136		05/17/2016	05/17/2016 18:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.5 %	54.2-145		05/17/2016	05/17/2016 18:08	EPA 8260B	

Classical Chemistry Parameters				Preparation Batch: K605013			
% Solids	81.8	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB05-SS-10
K162103-02 (Soil)

Date Sampled
05/17/2016 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	LC
Xylenes, total	ND	0.076	mg/kg dry	1	05/17/2016	05/17/2016 18:33	EPA 8260B	



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SB05-SS-10

K162103-02 (Soil)

Date Sampled
05/17/2016 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	114 %	44.1-130	05/17/2016	05/17/2016 18:33	EPA 8260B
Surrogate: Toluene-d8	125 %	42-136	05/17/2016	05/17/2016 18:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene	121 %	54.2-145	05/17/2016	05/17/2016 18:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	81.5	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B
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 Project Number: 2754

SB05-SS-15
K162103-03 (Soil)

Date Sampled
05/17/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	LC
Xylenes, total	ND	0.072	mg/kg dry	1	05/17/2016	05/17/2016 18:59	EPA 8260B	



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SB05-SS-15
K162103-03 (Soil)

Date Sampled
 05/17/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	96.1 %		44.1-130		05/17/2016	05/17/2016 18:59	EPA 8260B	
Surrogate: Toluene-d8	103 %		42-136		05/17/2016	05/17/2016 18:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.9 %		54.2-145		05/17/2016	05/17/2016 18:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	83.6	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B	
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SB05-SS-20
K162103-04 (Soil)

Date Sampled
05/17/2016 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
4-Chlorotoluene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Benzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Chloromethane	ND	0.057	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
m,p-Xylene	ND	0.057	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
n-Butyl Benzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
o-Xylene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	LC
Xylenes, total	ND	0.086	mg/kg dry	1	05/17/2016	05/17/2016 19:24	EPA 8260B	



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SB05-SS-20

K162103-04 (Soil)

Date Sampled
05/17/2016 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	89.5 %	44.1-130	05/17/2016	05/17/2016 19:24	EPA 8260B
Surrogate: Toluene-d8	97.0 %	42-136	05/17/2016	05/17/2016 19:24	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.0 %	54.2-145	05/17/2016	05/17/2016 19:24	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	65.1	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B
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SB05-SS-25
K162103-05 (Soil)

Date Sampled
05/17/2016 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	LC
Xylenes, total	ND	0.076	mg/kg dry	1	05/17/2016	05/17/2016 19:50	EPA 8260B	



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SB05-SS-25
K162103-05 (Soil)

Date Sampled
05/17/2016 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	92.4 %		44.1-130		05/17/2016	05/17/2016 19:50	EPA 8260B	
Surrogate: Toluene-d8	91.2 %		42-136		05/17/2016	05/17/2016 19:50	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	88.7 %		54.2-145		05/17/2016	05/17/2016 19:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	71.7	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B	
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 Project Number: 2754

SB05-SS-30
K162103-06 (Soil)

Date Sampled
05/17/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	LC
Xylenes, total	ND	0.077	mg/kg dry	1	05/17/2016	05/17/2016 20:15	EPA 8260B	



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SB05-SS-30

K162103-06 (Soil)

Date Sampled
05/17/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	91.0 %		44.1-130		05/17/2016	05/17/2016 20:15	EPA 8260B	
Surrogate: Toluene-d8	95.5 %		42-136		05/17/2016	05/17/2016 20:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	92.9 %		54.2-145		05/17/2016	05/17/2016 20:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	64.9	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B	
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 Project Number: 2754

SB05-SS-35
K162103-07 (Soil)

Date Sampled
 05/17/2016 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	LC
Xylenes, total	ND	0.078	mg/kg dry	1	05/17/2016	05/17/2016 20:41	EPA 8260B	



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SB05-SS-35

K162103-07 (Soil)

Date Sampled
05/17/2016 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	91.1 %	44.1-130	05/17/2016	05/17/2016 20:41	EPA 8260B
Surrogate: Toluene-d8	97.2 %	42-136	05/17/2016	05/17/2016 20:41	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.2 %	54.2-145	05/17/2016	05/17/2016 20:41	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	67.8	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B
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Project Number: 2754

SB05-SS-40
K162103-08 (Soil)

Date Sampled
05/17/2016 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Carbon tetrachloride	0.027	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	LC
Xylenes, total	ND	0.072	mg/kg dry	1	05/17/2016	05/17/2016 21:06	EPA 8260B	



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SB05-SS-40

K162103-08 (Soil)

Date Sampled
05/17/2016 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	88.6 %	44.1-130	05/17/2016	05/17/2016 21:06	EPA 8260B
Surrogate: Toluene-d8	94.3 %	42-136	05/17/2016	05/17/2016 21:06	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.4 %	54.2-145	05/17/2016	05/17/2016 21:06	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	71.0	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B
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SB05-SS-45
K162103-09 (Soil)

Date Sampled
05/17/2016 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Carbon tetrachloride	0.035	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	LC
Xylenes, total	ND	0.079	mg/kg dry	1	05/17/2016	05/17/2016 21:31	EPA 8260B	



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SB05-SS-45
K162103-09 (Soil)

Date Sampled
 05/17/2016 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	90.1 %	44.1-130	05/17/2016	05/17/2016 21:31	EPA 8260B
Surrogate: Toluene-d8	94.7 %	42-136	05/17/2016	05/17/2016 21:31	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.9 %	54.2-145	05/17/2016	05/17/2016 21:31	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	69.5	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B
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 Project Number: 2754

SB05-SS-50
K162103-10 (Soil)

Date Sampled
05/17/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Methylene chloride	ND	0.089	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	05/17/2016	05/17/2016 23:13	EPA 8260B	



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SB05-SS-50

K162103-10 (Soil)

Date Sampled
05/17/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	92.7 %	44.1-130	05/17/2016	05/17/2016 23:13	EPA 8260B
Surrogate: Toluene-d8	98.6 %	42-136	05/17/2016	05/17/2016 23:13	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.6 %	54.2-145	05/17/2016	05/17/2016 23:13	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	82.5	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B
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 Project Number: 2754

FD5-SS
K162103-11 (Soil)

Date Sampled
05/17/2016 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/17/2016	05/17/2016 23:38	EPA 8260B	



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FD5-SS
K162103-11 (Soil)

Date Sampled
 05/17/2016 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605014

Surrogate: 1-Bromo-2-chloroethane	83.0 %		44.1-130		05/17/2016	05/17/2016 23:38	EPA 8260B	
Surrogate: Toluene-d8	87.5 %		42-136		05/17/2016	05/17/2016 23:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	84.0 %		54.2-145		05/17/2016	05/17/2016 23:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605013

% Solids	65.2	0.00	% by Weight	1	05/17/2016	05/18/2016 08:27	SM 2540B	
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 Project Number: 2754

SB06-SS-05
K162104-01 (Soil)

Date Sampled
 05/18/2016 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/19/2016	05/19/2016 10:40	EPA 8260B	



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SB06-SS-05

K162104-01 (Soil)

Date Sampled
05/18/2016 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	91.5 %	44.1-130	05/19/2016	05/19/2016 10:40	EPA 8260B
Surrogate: Toluene-d8	93.3 %	42-136	05/19/2016	05/19/2016 10:40	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.5 %	54.2-145	05/19/2016	05/19/2016 10:40	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	79.2	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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 Project Number: 2754

SB06-SS-10
K162104-02 (Soil)

Date Sampled
 05/18/2016 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/19/2016	05/19/2016 11:06	EPA 8260B	



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SB06-SS-10

K162104-02 (Soil)

Date Sampled
05/18/2016 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	94.3 %	44.1-130	05/19/2016	05/19/2016 11:06	EPA 8260B
Surrogate: Toluene-d8	95.5 %	42-136	05/19/2016	05/19/2016 11:06	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.3 %	54.2-145	05/19/2016	05/19/2016 11:06	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	82.6	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB06-SS-15
K162104-03 (Soil)

Date Sampled
05/18/2016 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/19/2016	05/19/2016 11:33	EPA 8260B	



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SB06-SS-15

K162104-03 (Soil)

Date Sampled
05/18/2016 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	104 %	44.1-130	05/19/2016	05/19/2016 11:33	EPA 8260B
Surrogate: Toluene-d8	103 %	42-136	05/19/2016	05/19/2016 11:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene	105 %	54.2-145	05/19/2016	05/19/2016 11:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	82.9	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project Number: 2754

SB06-SS-21
K162104-04 (Soil)

Date Sampled
05/18/2016 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	
Xylenes, total	ND	0.084	mg/kg dry	1	05/19/2016	05/19/2016 12:00	EPA 8260B	



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SB06-SS-21

K162104-04 (Soil)

Date Sampled
05/18/2016 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	87.8 %	44.1-130	05/19/2016	05/19/2016 12:00	EPA 8260B
Surrogate: Toluene-d8	92.3 %	42-136	05/19/2016	05/19/2016 12:00	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.3 %	54.2-145	05/19/2016	05/19/2016 12:00	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	73.9	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project Number: 2754

SB06-SS-25
K162104-05 (Soil)

Date Sampled
05/18/2016 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,1,2-Trichloroethane	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,1-Dichloroethane	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,1-Dichloroethene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,2-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,2-Dichloroethane	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,3-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
1,4-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
2-Chlorotoluene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
4-Chlorotoluene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Benzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Carbon tetrachloride	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Chlorobenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Chloroform	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Chloromethane	ND	0.063	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Ethylbenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Isopropylbenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
m,p-Xylene	ND	0.063	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Methylene chloride	ND	0.13	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Naphthalene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
n-Butyl Benzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
n-Propyl Benzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
o-Xylene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
p-Isopropyltoluene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
sec-Butyl Benzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Styrene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
tert-Butylbenzene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Tetrachloroethene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Toluene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Trichloroethene	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Vinyl chloride	ND	0.031	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	
Xylenes, total	ND	0.094	mg/kg dry	1	05/19/2016	05/19/2016 12:27	EPA 8260B	



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SB06-SS-25

K162104-05 (Soil)

Date Sampled
05/18/2016 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	92.9 %	44.1-130	05/19/2016	05/19/2016 12:27	EPA 8260B
Surrogate: Toluene-d8	92.1 %	42-136	05/19/2016	05/19/2016 12:27	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.9 %	54.2-145	05/19/2016	05/19/2016 12:27	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	69.9	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-30
K162104-06 (Soil)

Date Sampled
 05/18/2016 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/19/2016	05/19/2016 12:54	EPA 8260B	



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SB06-SS-30

K162104-06 (Soil)

Date Sampled
05/18/2016 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	91.0 %	44.1-130	05/19/2016	05/19/2016 12:54	EPA 8260B
Surrogate: Toluene-d8	89.9 %	42-136	05/19/2016	05/19/2016 12:54	EPA 8260B
Surrogate: 4-Bromofluorobenzene	87.3 %	54.2-145	05/19/2016	05/19/2016 12:54	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	72.6	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB06-SS-35
K162104-07 (Soil)

Date Sampled
05/18/2016 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/19/2016	05/19/2016 10:31	EPA 8260B	



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SB06-SS-35

K162104-07 (Soil)

Date Sampled
05/18/2016 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	85.6 %	44.1-130	05/19/2016	05/19/2016 10:31	EPA 8260B
Surrogate: Toluene-d8	82.3 %	42-136	05/19/2016	05/19/2016 10:31	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.8 %	54.2-145	05/19/2016	05/19/2016 10:31	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	68.8	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-40
K162104-08 (Soil)

Date Sampled
 05/18/2016 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/19/2016	05/19/2016 10:56	EPA 8260B	



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SB06-SS-40

K162104-08 (Soil)

Date Sampled
05/18/2016 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K605016						
Surrogate: 1-Bromo-2-chloroethane	89.4 %		44.1-130		05/19/2016	05/19/2016 10:56	EPA 8260B
Surrogate: Toluene-d8	87.2 %		42-136		05/19/2016	05/19/2016 10:56	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.0 %		54.2-145		05/19/2016	05/19/2016 10:56	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K605015						
% Solids	73.4	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-45
K162104-09 (Soil)

Date Sampled
 05/18/2016 17:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/19/2016	05/19/2016 11:22	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-45
K162104-09 (Soil)

Date Sampled
 05/18/2016 17:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	89.7 %		44.1-130		05/19/2016	05/19/2016 11:22	EPA 8260B	
Surrogate: Toluene-d8	90.6 %		42-136		05/19/2016	05/19/2016 11:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	101 %		54.2-145		05/19/2016	05/19/2016 11:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	77.0	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-50
K162104-10 (Soil)

Date Sampled
05/18/2016 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Chloromethane	ND	0.043	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
m,p-Xylene	ND	0.043	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Methylene chloride	ND	0.087	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	
Xylenes, total	ND	0.065	mg/kg dry	1	05/19/2016	05/19/2016 11:47	EPA 8260B	



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SB06-SS-50
K162104-10 (Soil)

Date Sampled
05/18/2016 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	95.2 %		44.1-130		05/19/2016	05/19/2016 11:47	EPA 8260B	
Surrogate: Toluene-d8	96.1 %		42-136		05/19/2016	05/19/2016 11:47	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	103 %		54.2-145		05/19/2016	05/19/2016 11:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	82.8	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-56
K162104-11 (Soil)

Date Sampled
 05/18/2016 17:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/19/2016	05/19/2016 12:13	EPA 8260B	



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SB06-SS-56

K162104-11 (Soil)

Date Sampled
05/18/2016 17:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	103 %	44.1-130	05/19/2016	05/19/2016 12:13	EPA 8260B
Surrogate: Toluene-d8	104 %	42-136	05/19/2016	05/19/2016 12:13	EPA 8260B
Surrogate: 4-Bromofluorobenzene	117 %	54.2-145	05/19/2016	05/19/2016 12:13	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	70.6	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

FD6-SS
K162104-12 (Soil)

Date Sampled
 05/18/2016 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/19/2016	05/19/2016 12:39	EPA 8260B	



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FD6-SS

K162104-12 (Soil)

Date Sampled
05/18/2016 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	87.7 %	44.1-130	05/19/2016	05/19/2016 12:39	EPA 8260B
Surrogate: Toluene-d8	87.4 %	42-136	05/19/2016	05/19/2016 12:39	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.6 %	54.2-145	05/19/2016	05/19/2016 12:39	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	70.9	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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CH2M
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 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-61
K162104-13 (Soil)

Date Sampled
 05/19/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/19/2016	05/19/2016 16:03	EPA 8260B	



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SB06-SS-61

K162104-13 (Soil)

Date Sampled
05/19/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	91.4 %		44.1-130		05/19/2016	05/19/2016 16:03	EPA 8260B	
Surrogate: Toluene-d8	89.9 %		42-136		05/19/2016	05/19/2016 16:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	98.5 %		54.2-145		05/19/2016	05/19/2016 16:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	76.3	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B	
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 Project Number: 2754

SB06-SS-65
K162104-14 (Soil)

Date Sampled
 05/19/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/19/2016	05/19/2016 16:29	EPA 8260B	



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SB06-SS-65

K162104-14 (Soil)

Date Sampled
05/19/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	88.3 %	44.1-130	05/19/2016	05/19/2016 16:29	EPA 8260B
Surrogate: Toluene-d8	86.2 %	42-136	05/19/2016	05/19/2016 16:29	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.5 %	54.2-145	05/19/2016	05/19/2016 16:29	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	75.2	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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Project Number: 2754

SB06-SS-70
K162104-15 (Soil)

Date Sampled
05/19/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/19/2016	05/19/2016 16:54	EPA 8260B	



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 Project Number: 2754

SB06-SS-70
K162104-15 (Soil)

Date Sampled
 05/19/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	91.4 %		44.1-130		05/19/2016	05/19/2016 16:54	EPA 8260B	
Surrogate: Toluene-d8	88.8 %		42-136		05/19/2016	05/19/2016 16:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.8 %		54.2-145		05/19/2016	05/19/2016 16:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	64.0	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB06-SS-75
K162104-16 (Soil)

Date Sampled
 05/19/2016 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/19/2016	05/19/2016 17:19	EPA 8260B	



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SB06-SS-75

K162104-16 (Soil)

Date Sampled
05/19/2016 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605016

Surrogate: 1-Bromo-2-chloroethane	99.1 %	44.1-130	05/19/2016	05/19/2016 17:19	EPA 8260B
Surrogate: Toluene-d8	99.5 %	42-136	05/19/2016	05/19/2016 17:19	EPA 8260B
Surrogate: 4-Bromofluorobenzene	107 %	54.2-145	05/19/2016	05/19/2016 17:19	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605015

% Solids	82.1	0.00	% by Weight	1	05/19/2016	05/20/2016 13:10	SM 2540B
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 Project Number: 2754

SB07-SS-05
K162105-01 (Soil)

Date Sampled
 05/20/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Methylene chloride	ND	0.088	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	
Xylenes, total	ND	0.066	mg/kg dry	1	05/20/2016	05/20/2016 16:36	EPA 8260B	



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SB07-SS-05

K162105-01 (Soil)

Date Sampled
05/20/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	88.7 %		44.1-130		05/20/2016	05/20/2016 16:36	EPA 8260B	
Surrogate: Toluene-d8	89.5 %		42-136		05/20/2016	05/20/2016 16:36	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	98.0 %		54.2-145		05/20/2016	05/20/2016 16:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	81.8	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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SB07-SS-10
K162105-02 (Soil)

Date Sampled
 05/20/2016 09:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/20/2016	05/20/2016 17:02	EPA 8260B	



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 Project Number: 2754

SB07-SS-10
K162105-02 (Soil)

Date Sampled
 05/20/2016 09:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	87.9 %		44.1-130		05/20/2016	05/20/2016 17:02	EPA 8260B	
Surrogate: Toluene-d8	86.7 %		42-136		05/20/2016	05/20/2016 17:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	96.8 %		54.2-145		05/20/2016	05/20/2016 17:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	70.4	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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SB07-SS-15
K162105-03 (Soil)

Date Sampled
05/20/2016 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	05/20/2016	05/20/2016 17:27	EPA 8260B	



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SB07-SS-15
K162105-03 (Soil)

Date Sampled
 05/20/2016 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	96.9 %		44.1-130		05/20/2016	05/20/2016 17:27	EPA 8260B	
Surrogate: Toluene-d8	93.0 %		42-136		05/20/2016	05/20/2016 17:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	104 %		54.2-145		05/20/2016	05/20/2016 17:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	68.3	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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2525 Advance Road
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-20
K162105-04 (Soil)

Date Sampled
 05/20/2016 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	05/20/2016	05/20/2016 17:53	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-20
K162105-04 (Soil)

Date Sampled
 05/20/2016 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	87.4 %		44.1-130		05/20/2016	05/20/2016 17:53	EPA 8260B	
Surrogate: Toluene-d8	85.8 %		42-136		05/20/2016	05/20/2016 17:53	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	91.2 %		54.2-145		05/20/2016	05/20/2016 17:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	67.6	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-25
K162105-05 (Soil)

Date Sampled
05/20/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/20/2016	05/20/2016 18:18	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-25
K162105-05 (Soil)

Date Sampled
 05/20/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	80.8 %		44.1-130		05/20/2016	05/20/2016 18:18	EPA 8260B	
Surrogate: Toluene-d8	81.9 %		42-136		05/20/2016	05/20/2016 18:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	91.1 %		54.2-145		05/20/2016	05/20/2016 18:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	70.0	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB07-SS-30
K162105-06 (Soil)

Date Sampled
05/20/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/20/2016	05/20/2016 18:43	EPA 8260B	



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 Project Number: 2754

SB07-SS-30
K162105-06 (Soil)

Date Sampled
 05/20/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	90.2 %		44.1-130		05/20/2016	05/20/2016 18:43	EPA 8260B	
Surrogate: Toluene-d8	88.1 %		42-136		05/20/2016	05/20/2016 18:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.2 %		54.2-145		05/20/2016	05/20/2016 18:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	68.3	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-35
K162105-07 (Soil)

Date Sampled
 05/20/2016 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/20/2016	05/20/2016 19:09	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-35
K162105-07 (Soil)

Date Sampled
 05/20/2016 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	87.0 %		44.1-130		05/20/2016	05/20/2016 19:09	EPA 8260B	
Surrogate: Toluene-d8	86.7 %		42-136		05/20/2016	05/20/2016 19:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	91.4 %		54.2-145		05/20/2016	05/20/2016 19:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	71.2	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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2020 SW 4th Avenue
Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB07-SS-40
K162105-08 (Soil)

Date Sampled
05/20/2016 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/20/2016	05/20/2016 19:34	EPA 8260B	



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 Project Number: 2754

SB07-SS-40
K162105-08 (Soil)

Date Sampled
 05/20/2016 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	91.0 %		44.1-130		05/20/2016	05/20/2016 19:34	EPA 8260B	
Surrogate: Toluene-d8	91.0 %		42-136		05/20/2016	05/20/2016 19:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	100 %		54.2-145		05/20/2016	05/20/2016 19:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	70.3	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-45
K162105-09 (Soil)

Date Sampled
 05/20/2016 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,1,2-Trichloroethane	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,1-Dichloroethane	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,1-Dichloroethene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,2-Dichlorobenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,2-Dichloroethane	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,3-Dichlorobenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
1,4-Dichlorobenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
2-Chlorotoluene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
4-Chlorotoluene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Benzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Carbon tetrachloride	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Chlorobenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Chloroform	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Chloromethane	ND	0.064	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Ethylbenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Isopropylbenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
m,p-Xylene	ND	0.064	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Methylene chloride	ND	0.13	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Naphthalene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
n-Butyl Benzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
n-Propyl Benzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
o-Xylene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
p-Isopropyltoluene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
sec-Butyl Benzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Styrene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
tert-Butylbenzene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Tetrachloroethene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Toluene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Trichloroethene	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Vinyl chloride	ND	0.032	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	
Xylenes, total	ND	0.096	mg/kg dry	1	05/20/2016	05/20/2016 20:00	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB07-SS-45
K162105-09 (Soil)

Date Sampled
05/20/2016 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K605018			
Surrogate: 1-Bromo-2-chloroethane	91.2 %	44.1-130		05/20/2016	05/20/2016 20:00	EPA 8260B	
Surrogate: Toluene-d8	90.7 %	42-136		05/20/2016	05/20/2016 20:00	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.7 %	54.2-145		05/20/2016	05/20/2016 20:00	EPA 8260B	

Classical Chemistry Parameters				Preparation Batch: K605017			
% Solids	69.8	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-50
K162105-10 (Soil)

Date Sampled
 05/20/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/20/2016	05/20/2016 21:41	EPA 8260B	



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SB07-SS-50

K162105-10 (Soil)

Date Sampled
05/20/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	86.7 %		44.1-130		05/20/2016	05/20/2016 21:41	EPA 8260B	
Surrogate: Toluene-d8	85.5 %		42-136		05/20/2016	05/20/2016 21:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.8 %		54.2-145		05/20/2016	05/20/2016 21:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	68.3	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-55
K162105-11 (Soil)

Date Sampled
05/20/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	05/20/2016	05/20/2016 22:07	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB07-SS-55

K162105-11 (Soil)

Date Sampled
05/20/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	86.1 %	44.1-130	05/20/2016	05/20/2016 22:07	EPA 8260B
Surrogate: Toluene-d8	84.5 %	42-136	05/20/2016	05/20/2016 22:07	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.0 %	54.2-145	05/20/2016	05/20/2016 22:07	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	65.8	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-60
K162105-12 (Soil)

Date Sampled
 05/20/2016 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,1,2-Trichloroethane	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,1-Dichloroethane	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,1-Dichloroethene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,2-Dichlorobenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,2-Dichloroethane	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,3-Dichlorobenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
1,4-Dichlorobenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
2-Chlorotoluene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
4-Chlorotoluene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Benzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Carbon tetrachloride	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Chlorobenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Chloroform	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Chloromethane	ND	0.065	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Ethylbenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Isopropylbenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
m,p-Xylene	ND	0.065	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Methylene chloride	ND	0.13	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Naphthalene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
n-Butyl Benzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
n-Propyl Benzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
o-Xylene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
p-Isopropyltoluene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
sec-Butyl Benzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Styrene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
tert-Butylbenzene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Tetrachloroethene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Toluene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Trichloroethene	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Vinyl chloride	ND	0.033	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	
Xylenes, total	ND	0.098	mg/kg dry	1	05/20/2016	05/20/2016 22:32	EPA 8260B	



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SB07-SS-60

K162105-12 (Soil)

Date Sampled
05/20/2016 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	83.1 %	44.1-130	05/20/2016	05/20/2016 22:32	EPA 8260B
Surrogate: Toluene-d8	81.2 %	42-136	05/20/2016	05/20/2016 22:32	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.0 %	54.2-145	05/20/2016	05/20/2016 22:32	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	63.4	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB07-SS-65
K162105-13 (Soil)

Date Sampled
 05/20/2016 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/20/2016	05/20/2016 22:58	EPA 8260B	



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SB07-SS-65

K162105-13 (Soil)

Date Sampled
05/20/2016 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	92.4 %	44.1-130	05/20/2016	05/20/2016 22:58	EPA 8260B
Surrogate: Toluene-d8	89.4 %	42-136	05/20/2016	05/20/2016 22:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.6 %	54.2-145	05/20/2016	05/20/2016 22:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	73.1	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

FD7-SS
K162105-14 (Soil)

Date Sampled
 05/20/2016 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/20/2016	05/20/2016 23:23	EPA 8260B	



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FD7-SS
K162105-14 (Soil)

Date Sampled
 05/20/2016 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	94.9 %		44.1-130		05/20/2016	05/20/2016 23:23	EPA 8260B	
Surrogate: Toluene-d8	93.0 %		42-136		05/20/2016	05/20/2016 23:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	103 %		54.2-145		05/20/2016	05/20/2016 23:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	69.5	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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Project Number: 2754

SB07-SS-70
K162105-15 (Soil)

Date Sampled
05/20/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/20/2016	05/20/2016 23:48	EPA 8260B	



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SB07-SS-70

K162105-15 (Soil)

Date Sampled
05/20/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	91.4 %		44.1-130		05/20/2016	05/20/2016 23:48	EPA 8260B
Surrogate: Toluene-d8	90.3 %		42-136		05/20/2016	05/20/2016 23:48	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.8 %		54.2-145		05/20/2016	05/20/2016 23:48	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	72.5	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B
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 Project Number: 2754

SB07-SS-75
K162105-16 (Soil)

Date Sampled
 05/20/2016 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	05/20/2016	05/21/2016 00:14	EPA 8260B	



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SB07-SS-75

K162105-16 (Soil)

Date Sampled
05/20/2016 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605018

Surrogate: 1-Bromo-2-chloroethane	97.3 %		44.1-130		05/20/2016	05/21/2016 00:14	EPA 8260B	
Surrogate: Toluene-d8	94.2 %		42-136		05/20/2016	05/21/2016 00:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	100 %		54.2-145		05/20/2016	05/21/2016 00:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605017

% Solids	85.8	0.00	% by Weight	1	05/20/2016	05/21/2016 10:02	SM 2540B	
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MW5-SS-05
K162106-01 (Soil)

Date Sampled
 05/20/2016 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	LC
Xylenes, total	ND	0.070	mg/kg dry	1	05/21/2016	05/21/2016 09:44	EPA 8260B	



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MW5-SS-05

K162106-01 (Soil)

Date Sampled
05/20/2016 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	95.1 %	44.1-130	05/21/2016	05/21/2016 09:44	EPA 8260B
Surrogate: Toluene-d8	94.4 %	42-136	05/21/2016	05/21/2016 09:44	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.2 %	54.2-145	05/21/2016	05/21/2016 09:44	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	81.9	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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 Project Number: 2754

MW5-SS-10
K162106-02 (Soil)

Date Sampled
 05/20/2016 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Methylene chloride	ND	0.093	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	LC
Xylenes, total	ND	0.070	mg/kg dry	1	05/21/2016	05/21/2016 10:11	EPA 8260B	



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MW5-SS-10

K162106-02 (Soil)

Date Sampled
05/20/2016 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	114 %	44.1-130	05/21/2016	05/21/2016 10:11	EPA 8260B
Surrogate: Toluene-d8	106 %	42-136	05/21/2016	05/21/2016 10:11	EPA 8260B
Surrogate: 4-Bromofluorobenzene	100 %	54.2-145	05/21/2016	05/21/2016 10:11	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	77.8	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW5-SS-15
K162106-03 (Soil)

Date Sampled
05/20/2016 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	LC
Xylenes, total	ND	0.072	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	



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MW5-SS-15

K162106-03 (Soil)

Date Sampled
05/20/2016 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K605020				
Surrogate: 1-Bromo-2-chloroethane	105 %	44.1-130	05/21/2016	05/21/2016 10:38	EPA 8260B
Surrogate: Toluene-d8	104 %	42-136	05/21/2016	05/21/2016 10:38	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	05/21/2016	05/21/2016 10:38	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K605019						
% Solids	79.4	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B



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 Project Number: 2754

MW5-SS-20
K162106-04 (Soil)

Date Sampled
 05/20/2016 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Chloromethane	ND	0.043	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
m,p-Xylene	ND	0.043	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Methylene chloride	ND	0.086	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	LC
Xylenes, total	ND	0.065	mg/kg dry	1	05/21/2016	05/21/2016 11:05	EPA 8260B	



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MW5-SS-20
K162106-04 (Soil)

Date Sampled
05/20/2016 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	103 %		44.1-130		05/21/2016	05/21/2016 11:05	EPA 8260B	
Surrogate: Toluene-d8	102 %		42-136		05/21/2016	05/21/2016 11:05	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	100 %		54.2-145		05/21/2016	05/21/2016 11:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	80.6	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B	
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MW5-SS-25
K162106-05 (Soil)

Date Sampled
 05/20/2016 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	LC
Xylenes, total	ND	0.074	mg/kg dry	1	05/21/2016	05/21/2016 11:32	EPA 8260B	



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MW5-SS-25

K162106-05 (Soil)

Date Sampled
05/20/2016 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	99.4 %	44.1-130	05/21/2016	05/21/2016 11:32	EPA 8260B
Surrogate: Toluene-d8	102 %	42-136	05/21/2016	05/21/2016 11:32	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.9 %	54.2-145	05/21/2016	05/21/2016 11:32	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	84.0	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW5-SS-27
K162106-06 (Soil)

Date Sampled
05/20/2016 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,1-Dichloroethane	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,1-Dichloroethene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,2-Dichloroethane	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
2-Chlorotoluene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
4-Chlorotoluene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Benzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Carbon tetrachloride	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Chlorobenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Chloroform	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Chloromethane	ND	0.041	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Ethylbenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Isopropylbenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
m,p-Xylene	ND	0.041	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Methylene chloride	ND	0.083	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Naphthalene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
n-Butyl Benzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
n-Propyl Benzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
o-Xylene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
p-Isopropyltoluene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
sec-Butyl Benzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Styrene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
tert-Butylbenzene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Tetrachloroethene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Toluene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Trichloroethene	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	
Vinyl chloride	ND	0.021	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	LC
Xylenes, total	ND	0.062	mg/kg dry	1	05/21/2016	05/21/2016 11:58	EPA 8260B	



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MW5-SS-27

K162106-06 (Soil)

Date Sampled
05/20/2016 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	85.2 %	44.1-130	05/21/2016	05/21/2016 11:58	EPA 8260B
Surrogate: Toluene-d8	94.4 %	42-136	05/21/2016	05/21/2016 11:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.4 %	54.2-145	05/21/2016	05/21/2016 11:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	88.7	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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Project Number: 2754

MW5-SS-30
K162106-07 (Soil)

Date Sampled
05/20/2016 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Methylene chloride	ND	0.093	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	LC
Xylenes, total	ND	0.070	mg/kg dry	1	05/21/2016	05/21/2016 12:25	EPA 8260B	



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MW5-SS-30

K162106-07 (Soil)

Date Sampled
05/20/2016 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	89.8 %	44.1-130	05/21/2016	05/21/2016 12:25	EPA 8260B
Surrogate: Toluene-d8	89.4 %	42-136	05/21/2016	05/21/2016 12:25	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.2 %	54.2-145	05/21/2016	05/21/2016 12:25	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	86.6	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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MW5-SS-35
K162106-08 (Soil)

Date Sampled
05/20/2016 17:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/21/2016	05/21/2016 09:47	EPA 8260B	



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MW5-SS-35

K162106-08 (Soil)

Date Sampled
05/20/2016 17:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	88.7 %		44.1-130		05/21/2016	05/21/2016 09:47	EPA 8260B	
Surrogate: Toluene-d8	88.4 %		42-136		05/21/2016	05/21/2016 09:47	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.8 %		54.2-145		05/21/2016	05/21/2016 09:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	71.7	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B	
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Project Number: 2754

MW5-SS-40
K162106-09 (Soil)

Date Sampled
05/20/2016 17:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/21/2016	05/21/2016 10:12	EPA 8260B	



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MW5-SS-40

K162106-09 (Soil)

Date Sampled
05/20/2016 17:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	94.6 %	44.1-130	05/21/2016	05/21/2016 10:12	EPA 8260B
Surrogate: Toluene-d8	90.7 %	42-136	05/21/2016	05/21/2016 10:12	EPA 8260B
Surrogate: 4-Bromofluorobenzene	101 %	54.2-145	05/21/2016	05/21/2016 10:12	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	78.3	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW5-SS-45
K162106-10 (Soil)

Date Sampled
05/20/2016 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/21/2016	05/21/2016 10:38	EPA 8260B	



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MW5-SS-45
K162106-10 (Soil)

Date Sampled
05/20/2016 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	94.9 %		44.1-130		05/21/2016	05/21/2016 10:38	EPA 8260B	
Surrogate: Toluene-d8	91.7 %		42-136		05/21/2016	05/21/2016 10:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	101 %		54.2-145		05/21/2016	05/21/2016 10:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	94.5	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B	
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Project Number: 2754

MW5-SS-50
K162106-11 (Soil)

Date Sampled
05/20/2016 17:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/21/2016	05/21/2016 11:03	EPA 8260B	



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MW5-SS-50

K162106-11 (Soil)

Date Sampled
05/20/2016 17:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	91.3 %	44.1-130	05/21/2016	05/21/2016 11:03	EPA 8260B
Surrogate: Toluene-d8	90.9 %	42-136	05/21/2016	05/21/2016 11:03	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	05/21/2016	05/21/2016 11:03	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	83.0	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B
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 Project Number: 2754

MW5-SS-55
K162106-12 (Soil)

Date Sampled
 05/20/2016 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	05/21/2016	05/21/2016 11:29	EPA 8260B	



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MW5-SS-55

K162106-12 (Soil)

Date Sampled
05/20/2016 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	94.8 %		44.1-130		05/21/2016	05/21/2016 11:29	EPA 8260B	
Surrogate: Toluene-d8	93.8 %		42-136		05/21/2016	05/21/2016 11:29	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	107 %		54.2-145		05/21/2016	05/21/2016 11:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	78.6	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B	
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Project Number: 2754

FD8-SS
K162106-13 (Soil)

Date Sampled
05/20/2016 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/21/2016	05/21/2016 11:54	EPA 8260B	



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FD8-SS
K162106-13 (Soil)

Date Sampled
 05/20/2016 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605020

Surrogate: 1-Bromo-2-chloroethane	97.1 %		44.1-130		05/21/2016	05/21/2016 11:54	EPA 8260B	
Surrogate: Toluene-d8	103 %		42-136		05/21/2016	05/21/2016 11:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	110 %		54.2-145		05/21/2016	05/21/2016 11:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605019

% Solids	85.3	0.00	% by Weight	1	05/21/2016	05/22/2016 12:15	SM 2540B	
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SB08-SS-05
K162201-01 (Soil)

Date Sampled
05/23/2016 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Chloromethane	ND	0.043	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
m,p-Xylene	ND	0.043	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Methylene chloride	ND	0.086	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	
Xylenes, total	ND	0.065	mg/kg dry	1	05/23/2016	05/23/2016 16:05	EPA 8260B	



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SB08-SS-05

K162201-01 (Soil)

Date Sampled
05/23/2016 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	90.7 %	44.1-130	05/23/2016	05/23/2016 16:05	EPA 8260B
Surrogate: Toluene-d8	89.6 %	42-136	05/23/2016	05/23/2016 16:05	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.6 %	54.2-145	05/23/2016	05/23/2016 16:05	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	82.8	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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 Project Number: 2754

SB08-SS-10
K162201-02 (Soil)

Date Sampled
05/23/2016 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/23/2016	05/23/2016 16:32	EPA 8260B	



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 Project Number: 2754

SB08-SS-10
K162201-02 (Soil)

Date Sampled
 05/23/2016 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	83.2 %		44.1-130		05/23/2016	05/23/2016 16:32	EPA 8260B	
Surrogate: Toluene-d8	83.7 %		42-136		05/23/2016	05/23/2016 16:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	81.0 %		54.2-145		05/23/2016	05/23/2016 16:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	76.2	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B	
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SB08-SS-15
K162201-03 (Soil)

Date Sampled
05/23/2016 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/23/2016	05/23/2016 16:59	EPA 8260B	



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SB08-SS-15

K162201-03 (Soil)

Date Sampled
05/23/2016 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	82.9 %	44.1-130	05/23/2016	05/23/2016 16:59	EPA 8260B
Surrogate: Toluene-d8	90.9 %	42-136	05/23/2016	05/23/2016 16:59	EPA 8260B
Surrogate: 4-Bromofluorobenzene	86.5 %	54.2-145	05/23/2016	05/23/2016 16:59	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	68.9	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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 Project Number: 2754

SB08-SS-20
K162201-04 (Soil)

Date Sampled
05/23/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/23/2016	05/23/2016 17:25	EPA 8260B	



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SB08-SS-20

K162201-04 (Soil)

Date Sampled
05/23/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	88.8 %	44.1-130	05/23/2016	05/23/2016 17:25	EPA 8260B
Surrogate: Toluene-d8	87.0 %	42-136	05/23/2016	05/23/2016 17:25	EPA 8260B
Surrogate: 4-Bromofluorobenzene	86.3 %	54.2-145	05/23/2016	05/23/2016 17:25	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	60.7	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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 Project Number: 2754

SB08-SS-25
K162201-05 (Soil)

Date Sampled
05/23/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/23/2016	05/23/2016 17:52	EPA 8260B	



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SB08-SS-25
K162201-05 (Soil)

Date Sampled
05/23/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K605021			
Surrogate: 1-Bromo-2-chloroethane	84.3 %	44.1-130		05/23/2016	05/23/2016 17:52	EPA 8260B	
Surrogate: Toluene-d8	84.4 %	42-136		05/23/2016	05/23/2016 17:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	82.6 %	54.2-145		05/23/2016	05/23/2016 17:52	EPA 8260B	

Classical Chemistry Parameters				Preparation Batch: K605022			
% Solids	69.3	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B



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SB08-SS-30
K162201-06 (Soil)

Date Sampled
 05/23/2016 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/23/2016	05/23/2016 18:18	EPA 8260B	



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SB08-SS-30

K162201-06 (Soil)

Date Sampled
05/23/2016 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	75.0 %	44.1-130	05/23/2016	05/23/2016 18:18	EPA 8260B
Surrogate: Toluene-d8	76.9 %	42-136	05/23/2016	05/23/2016 18:18	EPA 8260B
Surrogate: 4-Bromofluorobenzene	77.4 %	54.2-145	05/23/2016	05/23/2016 18:18	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	66.4	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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 Project Number: 2754

SB08-SS-35
K162201-07 (Soil)

Date Sampled
 05/23/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/23/2016	05/23/2016 16:13	EPA 8260B	



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SB08-SS-35

K162201-07 (Soil)

Date Sampled
05/23/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	84.1 %	44.1-130	05/23/2016	05/23/2016 16:13	EPA 8260B
Surrogate: Toluene-d8	84.9 %	42-136	05/23/2016	05/23/2016 16:13	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.5 %	54.2-145	05/23/2016	05/23/2016 16:13	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	65.8	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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SB08-SS-40
K162201-08 (Soil)

Date Sampled
 05/23/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/23/2016	05/23/2016 16:38	EPA 8260B	



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SB08-SS-40
K162201-08 (Soil)

Date Sampled
 05/23/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	81.0 %	44.1-130	05/23/2016	05/23/2016 16:38	EPA 8260B
Surrogate: Toluene-d8	84.9 %	42-136	05/23/2016	05/23/2016 16:38	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.9 %	54.2-145	05/23/2016	05/23/2016 16:38	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	69.6	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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Project Number: 2754

SB08-SS-45
K162201-09 (Soil)

Date Sampled
05/23/2016 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Carbon tetrachloride	0.028	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/23/2016	05/23/2016 17:04	EPA 8260B	



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SB08-SS-45

K162201-09 (Soil)

Date Sampled
05/23/2016 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	82.0 %	44.1-130	05/23/2016	05/23/2016 17:04	EPA 8260B
Surrogate: Toluene-d8	83.2 %	42-136	05/23/2016	05/23/2016 17:04	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.8 %	54.2-145	05/23/2016	05/23/2016 17:04	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	62.5	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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 Project Number: 2754

SB08-SS-50
K162201-10 (Soil)

Date Sampled
05/23/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/23/2016	05/23/2016 17:29	EPA 8260B	



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SB08-SS-50

K162201-10 (Soil)

Date Sampled
05/23/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	93.8 %	44.1-130	05/23/2016	05/23/2016 17:29	EPA 8260B
Surrogate: Toluene-d8	95.3 %	42-136	05/23/2016	05/23/2016 17:29	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.0 %	54.2-145	05/23/2016	05/23/2016 17:29	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	88.9	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

FD9-SS
K162201-11 (Soil)

Date Sampled
 05/23/2016 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Carbon tetrachloride	0.036	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/23/2016	05/23/2016 17:54	EPA 8260B	



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FD9-SS

K162201-11 (Soil)

Date Sampled
05/23/2016 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605021

Surrogate: 1-Bromo-2-chloroethane	85.9 %	44.1-130	05/23/2016	05/23/2016 17:54	EPA 8260B
Surrogate: Toluene-d8	86.8 %	42-136	05/23/2016	05/23/2016 17:54	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.1 %	54.2-145	05/23/2016	05/23/2016 17:54	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605022

% Solids	69.2	0.00	% by Weight	1	05/23/2016	05/24/2016 08:28	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB09-SS-05
K162202-01 (Soil)

Date Sampled
05/23/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/24/2016	05/24/2016 12:35	EPA 8260B	



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SB09-SS-05

K162202-01 (Soil)

Date Sampled
05/23/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	84.8 %	44.1-130	05/24/2016	05/24/2016 12:35	EPA 8260B
Surrogate: Toluene-d8	89.5 %	42-136	05/24/2016	05/24/2016 12:35	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.2 %	54.2-145	05/24/2016	05/24/2016 12:35	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	81.7	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB09-SS-10
K162202-02 (Soil)

Date Sampled
 05/23/2016 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/24/2016	05/24/2016 12:40	EPA 8260B	



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 Project Number: 2754

SB09-SS-10
K162202-02 (Soil)

Date Sampled
 05/23/2016 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	92.8 %		44.1-130		05/24/2016	05/24/2016 12:40	EPA 8260B	
Surrogate: Toluene-d8	93.9 %		42-136		05/24/2016	05/24/2016 12:40	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.6 %		54.2-145		05/24/2016	05/24/2016 12:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	67.3	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB09-SS-15
K162202-03 (Soil)

Date Sampled
 05/23/2016 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/24/2016	05/24/2016 13:02	EPA 8260B	



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SB09-SS-15

K162202-03 (Soil)

Date Sampled
05/23/2016 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	85.1 %		44.1-130		05/24/2016	05/24/2016 13:02	EPA 8260B	
Surrogate: Toluene-d8	85.9 %		42-136		05/24/2016	05/24/2016 13:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	90.0 %		54.2-145		05/24/2016	05/24/2016 13:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	65.5	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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 Project Number: 2754

SB09-SS-20
K162202-04 (Soil)

Date Sampled
05/23/2016 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	05/24/2016	05/24/2016 13:05	EPA 8260B	



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 Project Number: 2754

SB09-SS-20
K162202-04 (Soil)

Date Sampled
 05/23/2016 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	87.1 %	44.1-130		05/24/2016	05/24/2016 13:05	EPA 8260B
Surrogate: Toluene-d8	89.7 %	42-136		05/24/2016	05/24/2016 13:05	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.8 %	54.2-145		05/24/2016	05/24/2016 13:05	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	84.4	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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SB09-SS-25
K162202-05 (Soil)

Date Sampled
05/23/2016 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/24/2016	05/24/2016 13:28	EPA 8260B	



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SB09-SS-25

K162202-05 (Soil)

Date Sampled
05/23/2016 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	80.9 %				05/24/2016	05/24/2016 13:28	EPA 8260B
Surrogate: Toluene-d8	83.5 %				05/24/2016	05/24/2016 13:28	EPA 8260B
Surrogate: 4-Bromofluorobenzene	79.4 %				05/24/2016	05/24/2016 13:28	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	64.8	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB09-SS-30
K162202-06 (Soil)

Date Sampled
 05/23/2016 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/24/2016	05/24/2016 13:30	EPA 8260B	



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SB09-SS-30
K162202-06 (Soil)

Date Sampled
 05/23/2016 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	81.9 %	44.1-130	05/24/2016	05/24/2016 13:30	EPA 8260B
Surrogate: Toluene-d8	82.6 %	42-136	05/24/2016	05/24/2016 13:30	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.3 %	54.2-145	05/24/2016	05/24/2016 13:30	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	64.9	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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 Project Number: 2754

SB09-SS-35
K162202-07 (Soil)

Date Sampled
 05/23/2016 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/24/2016	05/24/2016 13:55	EPA 8260B	



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SB09-SS-35

K162202-07 (Soil)

Date Sampled
05/23/2016 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	86.2 %		44.1-130		05/24/2016	05/24/2016 13:55	EPA 8260B	
Surrogate: Toluene-d8	87.8 %		42-136		05/24/2016	05/24/2016 13:55	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.8 %		54.2-145		05/24/2016	05/24/2016 13:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	71.7	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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Project Number: 2754

SB09-SS-39
K162202-08 (Soil)

Date Sampled
05/23/2016 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	05/24/2016	05/24/2016 13:56	EPA 8260B	



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SB09-SS-39

K162202-08 (Soil)

Date Sampled
05/23/2016 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	95.6 %		44.1-130		05/24/2016	05/24/2016 13:56	EPA 8260B	
Surrogate: Toluene-d8	93.4 %		42-136		05/24/2016	05/24/2016 13:56	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	93.0 %		54.2-145		05/24/2016	05/24/2016 13:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	77.4	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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 Project Number: 2754

FD10-SS
K162202-09 (Soil)

Date Sampled
 05/23/2016 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/24/2016	05/24/2016 14:22	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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FD10-SS
K162202-09 (Soil)

Date Sampled
 05/23/2016 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	83.6 %	44.1-130	05/24/2016	05/24/2016 14:22	EPA 8260B
Surrogate: Toluene-d8	83.7 %	42-136	05/24/2016	05/24/2016 14:22	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.0 %	54.2-145	05/24/2016	05/24/2016 14:22	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	65.1	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB10-SS-05
K162202-10 (Soil)

Date Sampled
05/24/2016 08:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	05/24/2016	05/24/2016 14:21	EPA 8260B	



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SB10-SS-05
K162202-10 (Soil)

Date Sampled
 05/24/2016 08:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	87.4 %		44.1-130		05/24/2016	05/24/2016 14:21	EPA 8260B	
Surrogate: Toluene-d8	89.8 %		42-136		05/24/2016	05/24/2016 14:21	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.0 %		54.2-145		05/24/2016	05/24/2016 14:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	79.9	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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 Project Number: 2754

SB10-SS-10
K162202-11 (Soil)

Date Sampled
 05/24/2016 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/24/2016	05/24/2016 14:49	EPA 8260B	



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SB10-SS-10

K162202-11 (Soil)

Date Sampled
05/24/2016 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	84.6 %	44.1-130	05/24/2016	05/24/2016 14:49	EPA 8260B
Surrogate: Toluene-d8	88.6 %	42-136	05/24/2016	05/24/2016 14:49	EPA 8260B
Surrogate: 4-Bromofluorobenzene	85.4 %	54.2-145	05/24/2016	05/24/2016 14:49	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	68.6	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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 Project Number: 2754

SB10-SS-15
K162202-12 (Soil)

Date Sampled
 05/24/2016 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/24/2016	05/24/2016 14:47	EPA 8260B	



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SB10-SS-15

K162202-12 (Soil)

Date Sampled
05/24/2016 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	86.2 %		44.1-130		05/24/2016	05/24/2016 14:47	EPA 8260B
Surrogate: Toluene-d8	87.9 %		42-136		05/24/2016	05/24/2016 14:47	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.1 %		54.2-145		05/24/2016	05/24/2016 14:47	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	68.4	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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SB10-SS-20
K162202-13 (Soil)

Date Sampled
 05/24/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/24/2016	05/24/2016 15:15	EPA 8260B	



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SB10-SS-20
K162202-13 (Soil)

Date Sampled
 05/24/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	87.2 %	44.1-130	05/24/2016	05/24/2016 15:15	EPA 8260B
Surrogate: Toluene-d8	90.7 %	42-136	05/24/2016	05/24/2016 15:15	EPA 8260B
Surrogate: 4-Bromofluorobenzene	90.1 %	54.2-145	05/24/2016	05/24/2016 15:15	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	66.3	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB10-SS-25
K162202-14 (Soil)

Date Sampled
 05/24/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	05/24/2016	05/24/2016 15:12	EPA 8260B	



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SB10-SS-25
K162202-14 (Soil)

Date Sampled
 05/24/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	84.9 %	44.1-130	05/24/2016	05/24/2016 15:12	EPA 8260B
Surrogate: Toluene-d8	85.7 %	42-136	05/24/2016	05/24/2016 15:12	EPA 8260B
Surrogate: 4-Bromofluorobenzene	87.7 %	54.2-145	05/24/2016	05/24/2016 15:12	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	66.1	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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 Project Number: 2754

SB10-SS-30
K162202-15 (Soil)

Date Sampled
 05/24/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Chloromethane	ND	0.057	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
m,p-Xylene	ND	0.057	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	
Xylenes, total	ND	0.085	mg/kg dry	1	05/24/2016	05/24/2016 15:42	EPA 8260B	



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SB10-SS-30
K162202-15 (Soil)

Date Sampled
 05/24/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	88.6 %		44.1-130		05/24/2016	05/24/2016 15:42	EPA 8260B	
Surrogate: Toluene-d8	81.6 %		42-136		05/24/2016	05/24/2016 15:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	84.6 %		54.2-145		05/24/2016	05/24/2016 15:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	66.5	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB10-SS-35
K162202-16 (Soil)

Date Sampled
 05/24/2016 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/24/2016	05/24/2016 15:38	EPA 8260B	



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SB10-SS-35
K162202-16 (Soil)

Date Sampled
 05/24/2016 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	80.4 %	44.1-130	05/24/2016	05/24/2016 15:38	EPA 8260B
Surrogate: Toluene-d8	83.0 %	42-136	05/24/2016	05/24/2016 15:38	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.2 %	54.2-145	05/24/2016	05/24/2016 15:38	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	66.9	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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 Project Number: 2754

SB10-SS-40
K162202-17 (Soil)

Date Sampled
 05/24/2016 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/24/2016	05/24/2016 16:08	EPA 8260B	



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SB10-SS-40

K162202-17 (Soil)

Date Sampled
05/24/2016 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	85.5 %	44.1-130	05/24/2016	05/24/2016 16:08	EPA 8260B
Surrogate: Toluene-d8	89.0 %	42-136	05/24/2016	05/24/2016 16:08	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.8 %	54.2-145	05/24/2016	05/24/2016 16:08	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	69.2	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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SB10-SS-45
K162202-18 (Soil)

Date Sampled
 05/24/2016 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	05/24/2016	05/24/2016 16:03	EPA 8260B	



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SB10-SS-45

K162202-18 (Soil)

Date Sampled
05/24/2016 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	82.0 %	44.1-130	05/24/2016	05/24/2016 16:03	EPA 8260B
Surrogate: Toluene-d8	84.6 %	42-136	05/24/2016	05/24/2016 16:03	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.9 %	54.2-145	05/24/2016	05/24/2016 16:03	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	76.3	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B
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FD11-SS
K162202-19 (Soil)

Date Sampled
 05/24/2016 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/24/2016	05/24/2016 16:35	EPA 8260B	



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 Project Number: 2754

FD11-SS
K162202-19 (Soil)

Date Sampled
 05/24/2016 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605023

Surrogate: 1-Bromo-2-chloroethane	83.4 %		44.1-130		05/24/2016	05/24/2016 16:35	EPA 8260B	
Surrogate: Toluene-d8	84.1 %		42-136		05/24/2016	05/24/2016 16:35	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	80.6 %		54.2-145		05/24/2016	05/24/2016 16:35	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605024

% Solids	65.4	0.00	% by Weight	1	05/24/2016	05/25/2016 08:24	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB12-SS-05
K162203-01 (Soil)

Date Sampled
 05/25/2016 08:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	E1
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	E1
Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Methylene chloride	ND	0.093	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	05/25/2016	05/25/2016 12:09	EPA 8260B	



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SB12-SS-05
K162203-01 (Soil)

Date Sampled
 05/25/2016 08:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	91.0 %		44.1-130		05/25/2016	05/25/2016 12:09	EPA 8260B	
Surrogate: Toluene-d8	93.2 %		42-136		05/25/2016	05/25/2016 12:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	92.4 %		54.2-145		05/25/2016	05/25/2016 12:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	81.7	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB12-SS-10
K162203-02 (Soil)

Date Sampled
 05/25/2016 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	E1
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	E1
Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	05/25/2016	05/25/2016 12:13	EPA 8260B	



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SB12-SS-10

K162203-02 (Soil)

Date Sampled
05/25/2016 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	95.2 %	44.1-130	05/25/2016	05/25/2016 12:13	EPA 8260B
Surrogate: Toluene-d8	98.5 %	42-136	05/25/2016	05/25/2016 12:13	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.6 %	54.2-145	05/25/2016	05/25/2016 12:13	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	88.7	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B
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 Project Number: 2754

SB12-SS-15
K162203-03 (Soil)

Date Sampled
 05/25/2016 08:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	E1
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	E1
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/25/2016	05/25/2016 12:36	EPA 8260B	



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SB12-SS-15

K162203-03 (Soil)

Date Sampled
05/25/2016 08:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	90.1 %	44.1-130	05/25/2016	05/25/2016 12:36	EPA 8260B
Surrogate: Toluene-d8	92.1 %	42-136	05/25/2016	05/25/2016 12:36	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.7 %	54.2-145	05/25/2016	05/25/2016 12:36	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	77.8	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB12-SS-20
K162203-04 (Soil)

Date Sampled
05/25/2016 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	E1
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	E1
Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	05/25/2016	05/25/2016 12:38	EPA 8260B	



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SB12-SS-20
K162203-04 (Soil)

Date Sampled
 05/25/2016 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	92.3 %		44.1-130		05/25/2016	05/25/2016 12:38	EPA 8260B	
Surrogate: Toluene-d8	92.4 %		42-136		05/25/2016	05/25/2016 12:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	105 %		54.2-145		05/25/2016	05/25/2016 12:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	83.7	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B	
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Project Number: 2754

SB12-SS-25
K162203-05 (Soil)

Date Sampled
05/25/2016 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	E1
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	E1
Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/25/2016	05/25/2016 13:02	EPA 8260B	



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SB12-SS-25
K162203-05 (Soil)

Date Sampled
 05/25/2016 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	85.8 %		44.1-130		05/25/2016	05/25/2016 13:02	EPA 8260B	
Surrogate: Toluene-d8	87.7 %		42-136		05/25/2016	05/25/2016 13:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	84.5 %		54.2-145		05/25/2016	05/25/2016 13:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	83.6	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B	
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 Project Number: 2754

SB12-SS-30
K162203-06 (Soil)

Date Sampled
 05/25/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	E1
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	E1
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/25/2016	05/25/2016 13:03	EPA 8260B	



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SB12-SS-30
K162203-06 (Soil)

Date Sampled
 05/25/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	78.0 %		44.1-130		05/25/2016	05/25/2016 13:03	EPA 8260B	
Surrogate: Toluene-d8	83.5 %		42-136		05/25/2016	05/25/2016 13:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	89.6 %		54.2-145		05/25/2016	05/25/2016 13:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	76.1	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B	
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 Project Number: 2754

SB12-SS-35
K162203-07 (Soil)

Date Sampled
 05/25/2016 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	E1
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	E1
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	



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SB12-SS-35

K162203-07 (Soil)

Date Sampled
05/25/2016 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	84.9 %	44.1-130	05/25/2016	05/25/2016 13:29	EPA 8260B
Surrogate: Toluene-d8	87.7 %	42-136	05/25/2016	05/25/2016 13:29	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.4 %	54.2-145	05/25/2016	05/25/2016 13:29	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	77.9	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B
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 Project Number: 2754

SB12-SS-40
K162203-08 (Soil)

Date Sampled
 05/25/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	E1
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	E1
Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/25/2016	05/25/2016 13:29	EPA 8260B	



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SB12-SS-40

K162203-08 (Soil)

Date Sampled
05/25/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	85.4 %	44.1-130	05/25/2016	05/25/2016 13:29	EPA 8260B
Surrogate: Toluene-d8	88.2 %	42-136	05/25/2016	05/25/2016 13:29	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.2 %	54.2-145	05/25/2016	05/25/2016 13:29	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	80.3	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB12-SS-45
K162203-09 (Soil)

Date Sampled
 05/25/2016 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	E1
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	E1
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/25/2016	05/25/2016 13:55	EPA 8260B	



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SB12-SS-45

K162203-09 (Soil)

Date Sampled
05/25/2016 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K605026						
Surrogate: 1-Bromo-2-chloroethane	89.4 %		44.1-130		05/25/2016	05/25/2016 13:55	EPA 8260B
Surrogate: Toluene-d8	86.3 %		42-136		05/25/2016	05/25/2016 13:55	EPA 8260B
Surrogate: 4-Bromofluorobenzene	83.1 %		54.2-145		05/25/2016	05/25/2016 13:55	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K605025						
% Solids	76.1	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B



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 Project Number: 2754

SB12-SS-50
K162203-10 (Soil)

Date Sampled
05/25/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	E1
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	E1
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/25/2016	05/25/2016 13:54	EPA 8260B	



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SB12-SS-50

K162203-10 (Soil)

Date Sampled
05/25/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	84.8 %	44.1-130	05/25/2016	05/25/2016 13:54	EPA 8260B
Surrogate: Toluene-d8	88.8 %	42-136	05/25/2016	05/25/2016 13:54	EPA 8260B
Surrogate: 4-Bromofluorobenzene	83.0 %	54.2-145	05/25/2016	05/25/2016 13:54	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	88.2	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B
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 Project Number: 2754

SB12-SS-55
K162203-11 (Soil)

Date Sampled
05/25/2016 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	E1
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	E1
Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	05/25/2016	05/25/2016 14:22	EPA 8260B	



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SB12-SS-55

K162203-11 (Soil)

Date Sampled
05/25/2016 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	87.5 %	44.1-130	05/25/2016	05/25/2016 14:22	EPA 8260B
Surrogate: Toluene-d8	87.6 %	42-136	05/25/2016	05/25/2016 14:22	EPA 8260B
Surrogate: 4-Bromofluorobenzene	82.7 %	54.2-145	05/25/2016	05/25/2016 14:22	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	77.0	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B
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 Project Number: 2754

FD12-SS
K162203-12 (Soil)

Date Sampled
 05/25/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	E1
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	E1
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/25/2016	05/25/2016 14:19	EPA 8260B	



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FD12-SS

K162203-12 (Soil)

Date Sampled
05/25/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605026

Surrogate: 1-Bromo-2-chloroethane	87.0 %		44.1-130		05/25/2016	05/25/2016 14:19	EPA 8260B	
Surrogate: Toluene-d8	89.2 %		42-136		05/25/2016	05/25/2016 14:19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	91.2 %		54.2-145		05/25/2016	05/25/2016 14:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605025

% Solids	88.6	0.00	% by Weight	1	05/25/2016	05/26/2016 10:28	SM 2540B	
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SB11-SS-05
K162203-13 (Soil)

Date Sampled
 05/25/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Methylene chloride	ND	0.089	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	



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SB11-SS-05
K162203-13 (Soil)

Date Sampled
 05/25/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	83.5 %		44.1-130		05/25/2016	05/25/2016 17:15	EPA 8260B	
Surrogate: Toluene-d8	80.5 %		42-136		05/25/2016	05/25/2016 17:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	80.4 %		54.2-145		05/25/2016	05/25/2016 17:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	82.1	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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SB11-SS-10
K162203-14 (Soil)

Date Sampled
 05/25/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/25/2016	05/25/2016 17:15	EPA 8260B	



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SB11-SS-10

K162203-14 (Soil)

Date Sampled
05/25/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	86.0 %		44.1-130		05/25/2016	05/25/2016 17:15	EPA 8260B	
Surrogate: Toluene-d8	89.5 %		42-136		05/25/2016	05/25/2016 17:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	93.6 %		54.2-145		05/25/2016	05/25/2016 17:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	66.8	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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 Project Number: 2754

SB11-SS-15
K162203-15 (Soil)

Date Sampled
 05/25/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Methylene chloride	ND	0.090	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	



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SB11-SS-15

K162203-15 (Soil)

Date Sampled
05/25/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	93.6 %		44.1-130		05/25/2016	05/25/2016 17:41	EPA 8260B	
Surrogate: Toluene-d8	99.5 %		42-136		05/25/2016	05/25/2016 17:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.4 %		54.2-145		05/25/2016	05/25/2016 17:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	82.9	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB11-SS-20
K162203-16 (Soil)

Date Sampled
 05/25/2016 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	05/25/2016	05/25/2016 17:41	EPA 8260B	



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SB11-SS-20
K162203-16 (Soil)

Date Sampled
05/25/2016 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K605027			
Surrogate: 1-Bromo-2-chloroethane	99.5 %		44.1-130		05/25/2016	05/25/2016 17:41	EPA 8260B
Surrogate: Toluene-d8	98.7 %		42-136		05/25/2016	05/25/2016 17:41	EPA 8260B
Surrogate: 4-Bromofluorobenzene	103 %		54.2-145		05/25/2016	05/25/2016 17:41	EPA 8260B

Classical Chemistry Parameters				Preparation Batch: K605029			
% Solids	83.1	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B



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 Project Number: 2754

SB11-SS-25
K162203-17 (Soil)

Date Sampled
 05/25/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/25/2016	05/25/2016 19:25	EPA 8260B	



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SB11-SS-25
K162203-17 (Soil)

Date Sampled
 05/25/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	89.4 %		44.1-130		05/25/2016	05/25/2016 19:25	EPA 8260B	
Surrogate: Toluene-d8	91.8 %		42-136		05/25/2016	05/25/2016 19:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	85.1 %		54.2-145		05/25/2016	05/25/2016 19:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	83.5	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB11-SS-30
K162203-18 (Soil)

Date Sampled
 05/25/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/25/2016	05/25/2016 19:22	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB11-SS-30
K162203-18 (Soil)

Date Sampled
 05/25/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	89.9 %		44.1-130		05/25/2016	05/25/2016 19:22	EPA 8260B	
Surrogate: Toluene-d8	89.6 %		42-136		05/25/2016	05/25/2016 19:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	100 %		54.2-145		05/25/2016	05/25/2016 19:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	82.9	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB11-SS-35
K162203-19 (Soil)

Date Sampled
 05/25/2016 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	05/25/2016	05/25/2016 19:52	EPA 8260B	



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SB11-SS-35
K162203-19 (Soil)

Date Sampled
 05/25/2016 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	84.4 %		44.1-130		05/25/2016	05/25/2016 19:52	EPA 8260B	
Surrogate: Toluene-d8	89.6 %		42-136		05/25/2016	05/25/2016 19:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	89.7 %		54.2-145		05/25/2016	05/25/2016 19:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	80.2	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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 Project Number: 2754

SB11-SS-40
K162203-20 (Soil)

Date Sampled
 05/25/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/25/2016	05/25/2016 19:48	EPA 8260B	



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SB11-SS-40

K162203-20 (Soil)

Date Sampled
05/25/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	88.9 %		44.1-130		05/25/2016	05/25/2016 19:48	EPA 8260B	
Surrogate: Toluene-d8	92.0 %		42-136		05/25/2016	05/25/2016 19:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	101 %		54.2-145		05/25/2016	05/25/2016 19:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	75.7	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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 Project Number: 2754

SB11-SS-45
K162203-21 (Soil)

Date Sampled
 05/25/2016 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/25/2016	05/25/2016 20:18	EPA 8260B	



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SB11-SS-45

K162203-21 (Soil)

Date Sampled
05/25/2016 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K605027				
Surrogate: 1-Bromo-2-chloroethane	88.3 %	44.1-130	05/25/2016	05/25/2016 20:18	EPA 8260B
Surrogate: Toluene-d8	91.4 %	42-136	05/25/2016	05/25/2016 20:18	EPA 8260B
Surrogate: 4-Bromofluorobenzene	86.6 %	54.2-145	05/25/2016	05/25/2016 20:18	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K605029						
% Solids	86.2	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B



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 Project Number: 2754

SB11-SS-50
K162203-22 (Soil)

Date Sampled
 05/25/2016 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/25/2016	05/25/2016 20:13	EPA 8260B	



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SB11-SS-50

K162203-22 (Soil)

Date Sampled
05/25/2016 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	89.5 %		44.1-130		05/25/2016	05/25/2016 20:13	EPA 8260B	
Surrogate: Toluene-d8	92.4 %		42-136		05/25/2016	05/25/2016 20:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.3 %		54.2-145		05/25/2016	05/25/2016 20:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	84.1	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB11-SS-55
K162203-23 (Soil)

Date Sampled
 05/25/2016 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	05/25/2016	05/25/2016 20:45	EPA 8260B	



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 Project Number: 2754

SB11-SS-55
K162203-23 (Soil)

Date Sampled
 05/25/2016 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	92.6 %		44.1-130		05/25/2016	05/25/2016 20:45	EPA 8260B	
Surrogate: Toluene-d8	97.7 %		42-136		05/25/2016	05/25/2016 20:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.5 %		54.2-145		05/25/2016	05/25/2016 20:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	84.3	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB11-SS-60
K162203-24 (Soil)

Date Sampled
 05/25/2016 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/25/2016	05/25/2016 20:38	EPA 8260B	



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 Project Number: 2754

SB11-SS-60
K162203-24 (Soil)

Date Sampled
 05/25/2016 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	87.5 %		44.1-130		05/25/2016	05/25/2016 20:38	EPA 8260B	
Surrogate: Toluene-d8	87.4 %		42-136		05/25/2016	05/25/2016 20:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	93.6 %		54.2-145		05/25/2016	05/25/2016 20:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	79.9	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B	
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SB11-SS-65
K162203-25 (Soil)

Date Sampled
 05/25/2016 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Methylene chloride	ND	0.093	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	05/25/2016	05/25/2016 21:12	EPA 8260B	



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SB11-SS-65
K162203-25 (Soil)

Date Sampled
 05/25/2016 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	86.3 %	44.1-130	05/25/2016	05/25/2016 21:12	EPA 8260B
Surrogate: Toluene-d8	87.9 %	42-136	05/25/2016	05/25/2016 21:12	EPA 8260B
Surrogate: 4-Bromofluorobenzene	88.7 %	54.2-145	05/25/2016	05/25/2016 21:12	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	82.9	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B
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FD13-SS
K162203-26 (Soil)

Date Sampled
 05/25/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/25/2016	05/25/2016 21:04	EPA 8260B	



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FD13-SS

K162203-26 (Soil)

Date Sampled
05/25/2016 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605027

Surrogate: 1-Bromo-2-chloroethane	87.1 %	44.1-130	05/25/2016	05/25/2016 21:04	EPA 8260B
Surrogate: Toluene-d8	93.1 %	42-136	05/25/2016	05/25/2016 21:04	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.1 %	54.2-145	05/25/2016	05/25/2016 21:04	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605029

% Solids	82.5	0.00	% by Weight	1	05/25/2016	05/26/2016 10:33	SM 2540B
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Project Number: 2754

SB13-SS-05
K162204-01 (Soil)

Date Sampled
05/26/2016 07:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/26/2016	05/26/2016 13:35	EPA 8260B	



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SB13-SS-05

K162204-01 (Soil)

Date Sampled
05/26/2016 07:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	87.0 %	44.1-130	05/26/2016	05/26/2016 13:35	EPA 8260B
Surrogate: Toluene-d8	91.9 %	42-136	05/26/2016	05/26/2016 13:35	EPA 8260B
Surrogate: 4-Bromofluorobenzene	86.4 %	54.2-145	05/26/2016	05/26/2016 13:35	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	83.5	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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Project Number: 2754

SB13-SS-10
K162204-02 (Soil)

Date Sampled
05/26/2016 08:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Methylene chloride	ND	0.093	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	LC
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	05/26/2016	05/26/2016 12:17	EPA 8260B	



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SB13-SS-10
K162204-02 (Soil)

Date Sampled
 05/26/2016 08:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	89.6 %		44.1-130		05/26/2016	05/26/2016 12:17	EPA 8260B	
Surrogate: Toluene-d8	89.3 %		42-136		05/26/2016	05/26/2016 12:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	96.5 %		54.2-145		05/26/2016	05/26/2016 12:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	82.3	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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 Project Number: 2754

SB13-SS-15
K162204-03 (Soil)

Date Sampled
 05/26/2016 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/26/2016	05/26/2016 14:02	EPA 8260B	



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SB13-SS-15

K162204-03 (Soil)

Date Sampled
05/26/2016 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	91.3 %		44.1-130		05/26/2016	05/26/2016 14:02	EPA 8260B	
Surrogate: Toluene-d8	95.1 %		42-136		05/26/2016	05/26/2016 14:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	107 %		54.2-145		05/26/2016	05/26/2016 14:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	71.3	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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 Project Number: 2754

SB13-SS-20
K162204-04 (Soil)

Date Sampled
 05/26/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	LC
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/26/2016	05/26/2016 12:42	EPA 8260B	



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SB13-SS-20

K162204-04 (Soil)

Date Sampled
05/26/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	94.0 %		44.1-130		05/26/2016	05/26/2016 12:42	EPA 8260B
Surrogate: Toluene-d8	98.1 %		42-136		05/26/2016	05/26/2016 12:42	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.8 %		54.2-145		05/26/2016	05/26/2016 12:42	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	68.0	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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Project Number: 2754

SB13-SS-25
K162204-05 (Soil)

Date Sampled
05/26/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/26/2016	05/26/2016 14:28	EPA 8260B	



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SB13-SS-25
K162204-05 (Soil)

Date Sampled
 05/26/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	87.4 %		44.1-130		05/26/2016	05/26/2016 14:28	EPA 8260B	
Surrogate: Toluene-d8	94.1 %		42-136		05/26/2016	05/26/2016 14:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	92.5 %		54.2-145		05/26/2016	05/26/2016 14:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	69.4	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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SB13-SS-30
K162204-06 (Soil)

Date Sampled
 05/26/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	LC
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	05/26/2016	05/26/2016 13:07	EPA 8260B	



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SB13-SS-30

K162204-06 (Soil)

Date Sampled
05/26/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	86.9 %		44.1-130		05/26/2016	05/26/2016 13:07	EPA 8260B
Surrogate: Toluene-d8	88.5 %		42-136		05/26/2016	05/26/2016 13:07	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.0 %		54.2-145		05/26/2016	05/26/2016 13:07	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	67.0	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB13-SS-35
K162204-07 (Soil)

Date Sampled
 05/26/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	05/26/2016	05/26/2016 14:55	EPA 8260B	



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SB13-SS-35
K162204-07 (Soil)

Date Sampled
 05/26/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	90.8 %		44.1-130		05/26/2016	05/26/2016 14:55	EPA 8260B	
Surrogate: Toluene-d8	92.0 %		42-136		05/26/2016	05/26/2016 14:55	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	88.6 %		54.2-145		05/26/2016	05/26/2016 14:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	63.3	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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Project Number: 2754

SB13-SS-40
K162204-08 (Soil)

Date Sampled
05/26/2016 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,1-Dichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,1-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,2-Dichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
2-Chlorotoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
4-Chlorotoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Carbon tetrachloride	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Chlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Chloroform	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Chloromethane	ND	0.062	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Ethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Isopropylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
m,p-Xylene	ND	0.062	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Naphthalene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	LC
n-Butyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
n-Propyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
o-Xylene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
p-Isopropyltoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
sec-Butyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Styrene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
tert-Butylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Tetrachloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Toluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Trichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Vinyl chloride	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	
Xylenes, total	ND	0.093	mg/kg dry	1	05/26/2016	05/26/2016 13:33	EPA 8260B	



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SB13-SS-40

K162204-08 (Soil)

Date Sampled
05/26/2016 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	88.9 %		44.1-130		05/26/2016	05/26/2016 13:33	EPA 8260B
Surrogate: Toluene-d8	87.8 %		42-136		05/26/2016	05/26/2016 13:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.8 %		54.2-145		05/26/2016	05/26/2016 13:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	64.2	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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 Project Number: 2754

SB13-SS-45
K162204-09 (Soil)

Date Sampled
 05/26/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	
Xylenes, total	ND	0.084	mg/kg dry	1	05/26/2016	05/26/2016 15:22	EPA 8260B	



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SB13-SS-45

K162204-09 (Soil)

Date Sampled
05/26/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	84.6 %	44.1-130	05/26/2016	05/26/2016 15:22	EPA 8260B
Surrogate: Toluene-d8	88.8 %	42-136	05/26/2016	05/26/2016 15:22	EPA 8260B
Surrogate: 4-Bromofluorobenzene	82.3 %	54.2-145	05/26/2016	05/26/2016 15:22	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	66.7	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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 Project Number: 2754

SB13-SS-50
K162204-10 (Soil)

Date Sampled
05/26/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	LC
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/26/2016	05/26/2016 13:58	EPA 8260B	



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SB13-SS-50

K162204-10 (Soil)

Date Sampled
05/26/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	90.9 %	44.1-130	05/26/2016	05/26/2016 13:58	EPA 8260B
Surrogate: Toluene-d8	92.5 %	42-136	05/26/2016	05/26/2016 13:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.7 %	54.2-145	05/26/2016	05/26/2016 13:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	65.0	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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 Project Number: 2754

SB13-SS-55
K162204-11 (Soil)

Date Sampled
05/26/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	05/26/2016	05/26/2016 17:07	EPA 8260B	



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SB13-SS-55
K162204-11 (Soil)

Date Sampled
05/26/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	115 %	44.1-130		05/26/2016	05/26/2016 17:07	EPA 8260B
Surrogate: Toluene-d8	116 %	42-136		05/26/2016	05/26/2016 17:07	EPA 8260B
Surrogate: 4-Bromofluorobenzene	104 %	54.2-145		05/26/2016	05/26/2016 17:07	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	76.8	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B
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 Project Number: 2754

SB13-SS-60
K162204-12 (Soil)

Date Sampled
 05/26/2016 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	LC
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	05/26/2016	05/26/2016 14:24	EPA 8260B	



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SB13-SS-60
K162204-12 (Soil)

Date Sampled
 05/26/2016 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	105 %	44.1-130			05/26/2016	05/26/2016 14:24	EPA 8260B	
Surrogate: Toluene-d8	107 %	42-136			05/26/2016	05/26/2016 14:24	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	105 %	54.2-145			05/26/2016	05/26/2016 14:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	78.8	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
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SB13-SS-63
K162204-13 (Soil)

Date Sampled
 05/26/2016 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/26/2016	05/26/2016 17:34	EPA 8260B	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB13-SS-63
K162204-13 (Soil)

Date Sampled
 05/26/2016 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	92.5 %		44.1-130		05/26/2016	05/26/2016 17:34	EPA 8260B	
Surrogate: Toluene-d8	94.3 %		42-136		05/26/2016	05/26/2016 17:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.5 %		54.2-145		05/26/2016	05/26/2016 17:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	86.2	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

FD-14-SS
K162204-14 (Soil)

Date Sampled
 05/26/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	LC
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/26/2016	05/26/2016 14:49	EPA 8260B	



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FD-14-SS
K162204-14 (Soil)

Date Sampled
 05/26/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605028

Surrogate: 1-Bromo-2-chloroethane	86.5 %		44.1-130		05/26/2016	05/26/2016 14:49	EPA 8260B	
Surrogate: Toluene-d8	88.8 %		42-136		05/26/2016	05/26/2016 14:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.3 %		54.2-145		05/26/2016	05/26/2016 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605030

% Solids	66.0	0.00	% by Weight	1	05/26/2016	05/27/2016 08:06	SM 2540B	
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 Project Number: 2754

SB14-SS-05
K162204-15 (Soil)

Date Sampled
 05/26/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	05/26/2016	05/26/2016 18:01	EPA 8260B	



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SB14-SS-05

K162204-15 (Soil)

Date Sampled
05/26/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	105 %	44.1-130	05/26/2016	05/26/2016 18:01	EPA 8260B
Surrogate: Toluene-d8	102 %	42-136	05/26/2016	05/26/2016 18:01	EPA 8260B
Surrogate: 4-Bromofluorobenzene	103 %	54.2-145	05/26/2016	05/26/2016 18:01	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	83.9	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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 Project Number: 2754

SB14-SS-10
K162204-16 (Soil)

Date Sampled
 05/26/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	LC
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	05/26/2016	05/26/2016 18:13	EPA 8260B	



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SB14-SS-10
K162204-16 (Soil)

Date Sampled
 05/26/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	93.4 %		44.1-130		05/26/2016	05/26/2016 18:13	EPA 8260B	
Surrogate: Toluene-d8	97.9 %		42-136		05/26/2016	05/26/2016 18:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.3 %		54.2-145		05/26/2016	05/26/2016 18:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	79.6	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB14-SS-15
K162204-17 (Soil)

Date Sampled
 05/26/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	05/26/2016	05/26/2016 18:28	EPA 8260B	



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 Project Number: 2754

SB14-SS-15
K162204-17 (Soil)

Date Sampled
 05/26/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	106 %		44.1-130		05/26/2016	05/26/2016 18:28	EPA 8260B	
Surrogate: Toluene-d8	104 %		42-136		05/26/2016	05/26/2016 18:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	112 %		54.2-145		05/26/2016	05/26/2016 18:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	83.2	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B	
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2020 SW 4th Avenue
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB14-SS-20
K162204-18 (Soil)

Date Sampled
05/26/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Methylene chloride	ND	0.090	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	LC
n-Butyl Benzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	05/26/2016	05/26/2016 18:39	EPA 8260B	



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SB14-SS-20

K162204-18 (Soil)

Date Sampled
05/26/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	99.1 %	44.1-130	05/26/2016	05/26/2016 18:39	EPA 8260B
Surrogate: Toluene-d8	103 %	42-136	05/26/2016	05/26/2016 18:39	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	05/26/2016	05/26/2016 18:39	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	79.2	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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Project Number: 2754

SB14-SS-25
K162204-19 (Soil)

Date Sampled
05/26/2016 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/26/2016	05/26/2016 18:55	EPA 8260B	



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SB14-SS-25

K162204-19 (Soil)

Date Sampled
05/26/2016 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	102 %	44.1-130	05/26/2016	05/26/2016 18:55	EPA 8260B
Surrogate: Toluene-d8	103 %	42-136	05/26/2016	05/26/2016 18:55	EPA 8260B
Surrogate: 4-Bromofluorobenzene	97.5 %	54.2-145	05/26/2016	05/26/2016 18:55	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	75.0	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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 Project Number: 2754

SB14-SS-30
K162204-20 (Soil)

Date Sampled
 05/26/2016 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,1,2-Trichloroethane	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,1-Dichloroethane	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,1-Dichloroethene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,2-Dichlorobenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,2-Dichloroethane	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,3-Dichlorobenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
1,4-Dichlorobenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
2-Chlorotoluene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
4-Chlorotoluene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Benzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Carbon tetrachloride	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Chlorobenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Chloroform	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Chloromethane	ND	0.060	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Ethylbenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Isopropylbenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
m,p-Xylene	ND	0.060	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Naphthalene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	LC
n-Butyl Benzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
n-Propyl Benzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
o-Xylene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
p-Isopropyltoluene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
sec-Butyl Benzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Styrene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
tert-Butylbenzene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Tetrachloroethene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Toluene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Trichloroethene	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Vinyl chloride	ND	0.030	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	
Xylenes, total	ND	0.090	mg/kg dry	1	05/26/2016	05/26/2016 19:05	EPA 8260B	



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SB14-SS-30

K162204-20 (Soil)

Date Sampled
05/26/2016 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	88.8 %	44.1-130	05/26/2016	05/26/2016 19:05	EPA 8260B
Surrogate: Toluene-d8	90.3 %	42-136	05/26/2016	05/26/2016 19:05	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.3 %	54.2-145	05/26/2016	05/26/2016 19:05	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	70.7	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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Project Number: 2754

SB14-SS-35
K162204-21 (Soil)

Date Sampled
05/26/2016 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	05/26/2016	05/26/2016 19:22	EPA 8260B	



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SB14-SS-35
K162204-21 (Soil)

Date Sampled
 05/26/2016 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	106 %		44.1-130		05/26/2016	05/26/2016 19:22	EPA 8260B	
Surrogate: Toluene-d8	109 %		42-136		05/26/2016	05/26/2016 19:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.9 %		54.2-145		05/26/2016	05/26/2016 19:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	70.3	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B	
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Project Number: 2754

SB14-SS-40
K162204-22 (Soil)

Date Sampled
05/26/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	LC
n-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	05/26/2016	05/26/2016 19:30	EPA 8260B	



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SB14-SS-40
K162204-22 (Soil)

Date Sampled
 05/26/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	87.7 %	44.1-130	05/26/2016	05/26/2016 19:30	EPA 8260B
Surrogate: Toluene-d8	90.1 %	42-136	05/26/2016	05/26/2016 19:30	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.2 %	54.2-145	05/26/2016	05/26/2016 19:30	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	69.4	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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SB14-SS-45
K162204-23 (Soil)

Date Sampled
 05/26/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,1,2-Trichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,1-Dichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,1-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,2-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,2-Dichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,3-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
1,4-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
2-Chlorotoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
4-Chlorotoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Carbon tetrachloride	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Chlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Chloroform	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Chloromethane	ND	0.062	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Ethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Isopropylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
m,p-Xylene	ND	0.062	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Naphthalene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
n-Butyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
n-Propyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
o-Xylene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
p-Isopropyltoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
sec-Butyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Styrene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
tert-Butylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Tetrachloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Toluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Trichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Vinyl chloride	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	
Xylenes, total	ND	0.093	mg/kg dry	1	05/26/2016	05/26/2016 19:48	EPA 8260B	



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SB14-SS-45

K162204-23 (Soil)

Date Sampled
05/26/2016 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	98.3 %		44.1-130		05/26/2016	05/26/2016 19:48	EPA 8260B	
Surrogate: Toluene-d8	104 %		42-136		05/26/2016	05/26/2016 19:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	101 %		54.2-145		05/26/2016	05/26/2016 19:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	89.1	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B	
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Project Number: 2754

FD15-SS
K162204-24 (Soil)

Date Sampled
05/26/2016 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
4-Chlorotoluene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Benzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Chloromethane	ND	0.058	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
m,p-Xylene	ND	0.058	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	LC
n-Butyl Benzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
o-Xylene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	
Xylenes, total	ND	0.087	mg/kg dry	1	05/26/2016	05/26/2016 19:56	EPA 8260B	



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FD15-SS
K162204-24 (Soil)

Date Sampled
 05/26/2016 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	92.6 %	44.1-130	05/26/2016	05/26/2016 19:56	EPA 8260B
Surrogate: Toluene-d8	94.6 %	42-136	05/26/2016	05/26/2016 19:56	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	05/26/2016	05/26/2016 19:56	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	73.8	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB14-SS-50
K162204-25 (Soil)

Date Sampled
 05/26/2016 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,1-Dichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,1-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,2-Dichloroethane	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
2-Chlorotoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
4-Chlorotoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Carbon tetrachloride	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Chlorobenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Chloroform	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Chloromethane	ND	0.062	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Ethylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Isopropylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
m,p-Xylene	ND	0.062	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Naphthalene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
n-Butyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
n-Propyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
o-Xylene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
p-Isopropyltoluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
sec-Butyl Benzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Styrene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
tert-Butylbenzene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Tetrachloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Toluene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Trichloroethene	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Vinyl chloride	ND	0.031	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	
Xylenes, total	ND	0.093	mg/kg dry	1	05/26/2016	05/26/2016 20:15	EPA 8260B	



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SB14-SS-50

K162204-25 (Soil)

Date Sampled
05/26/2016 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	94.4 %	44.1-130	05/26/2016	05/26/2016 20:15	EPA 8260B
Surrogate: Toluene-d8	99.3 %	42-136	05/26/2016	05/26/2016 20:15	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.6 %	54.2-145	05/26/2016	05/26/2016 20:15	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	79.8	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB14-SS-54
K162204-26 (Soil)

Date Sampled
05/26/2016 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	LC
n-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	05/26/2016	05/26/2016 20:22	EPA 8260B	



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SB14-SS-54

K162204-26 (Soil)

Date Sampled
05/26/2016 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K605031

Surrogate: 1-Bromo-2-chloroethane	104 %		44.1-130		05/26/2016	05/26/2016 20:22	EPA 8260B	
Surrogate: Toluene-d8	106 %		42-136		05/26/2016	05/26/2016 20:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	109 %		54.2-145		05/26/2016	05/26/2016 20:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K605032

% Solids	82.4	0.00	% by Weight	1	05/26/2016	05/27/2016 08:09	SM 2540B	
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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605002 - EPA 3550B

Blank (K605002-BLK1)

Prepared: 05/10/2016 Analyzed: 05/10/2016 17:00

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.483		mg/kg wet	0.5000		96.7	44.1-130			
Surrogate: Toluene-d8	0.486		mg/kg wet	0.5000		97.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.504		mg/kg wet	0.5000		101	54.2-145			



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605002 - EPA 3550B

LCS (K605002-BS1)

Prepared: 05/10/2016 Analyzed: 05/11/2016 00:15

1,1,1-Trichloroethane	0.554	0.025	mg/kg wet	0.5000		111	59.6-143			
1,1,2,2-Tetrachloroethane	0.508	0.025	mg/kg wet	0.5000		102	61.1-133			
1,1,2-Trichloroethane	0.501	0.025	mg/kg wet	0.5000		100	72.5-128			
1,1-Dichloroethane	0.586	0.025	mg/kg wet	0.5000		117	65-136			
1,1-Dichloroethene	0.663	0.025	mg/kg wet	0.5000		133	51.4-160			
1,2,3-Trichlorobenzene	0.519	0.025	mg/kg wet	0.5000		104	73.1-122			
1,2,4-Trichlorobenzene	0.535	0.025	mg/kg wet	0.5000		107	80.3-118			
1,2,4-Trimethylbenzene	0.513	0.025	mg/kg wet	0.5000		103	57.2-139			
1,2-Dichlorobenzene	0.520	0.025	mg/kg wet	0.5000		104	87.7-118			
1,2-Dichloroethane	0.527	0.025	mg/kg wet	0.5000		105	66.5-133			
1,3,5-Trimethylbenzene	0.500	0.025	mg/kg wet	0.5000		100	32-159			
1,3-Dichlorobenzene	0.525	0.025	mg/kg wet	0.5000		105	88.8-116			
1,4-Dichlorobenzene	0.522	0.025	mg/kg wet	0.5000		104	83.9-116			
2-Chlorotoluene	0.498	0.025	mg/kg wet	0.5000		99.7	87.3-130			
4-Chlorotoluene	0.506	0.025	mg/kg wet	0.5000		101	92.4-126			
Benzene	0.547	0.025	mg/kg wet	0.5000		109	67.1-128			
Carbon tetrachloride	0.572	0.025	mg/kg wet	0.5000		114	70.7-126			
Chlorobenzene	0.523	0.025	mg/kg wet	0.5000		105	83.1-114			
Chloroform	0.527	0.025	mg/kg wet	0.5000		105	73-127			
Chloromethane	0.882	0.050	mg/kg wet	0.5000		176	24.9-199			
cis-1,2-Dichloroethene	0.561	0.025	mg/kg wet	0.5000		112	67.7-129			
Ethylbenzene	0.504	0.025	mg/kg wet	0.5000		101	80.6-126			
Isopropylbenzene	0.514	0.025	mg/kg wet	0.5000		103	91.2-121			
m,p-Xylene	1.03	0.050	mg/kg wet	1.000		103	79-124			
Methylene chloride	0.536	0.10	mg/kg wet	0.5000		107	20-162			
Naphthalene	0.497	0.025	mg/kg wet	0.5000		99.3	64.2-125			
n-Butyl Benzene	0.504	0.025	mg/kg wet	0.5000		101	90.2-122			
n-Propyl Benzene	0.496	0.025	mg/kg wet	0.5000		99.2	84-139			
o-Xylene	0.524	0.025	mg/kg wet	0.5000		105	80.1-122			
p-Isopropyltoluene	0.504	0.025	mg/kg wet	0.5000		101	89-129			
sec-Butyl Benzene	0.505	0.025	mg/kg wet	0.5000		101	87.6-126			
Styrene	0.519	0.025	mg/kg wet	0.5000		104	82.8-116			
tert-Butylbenzene	0.488	0.025	mg/kg wet	0.5000		97.7	83.4-139			
Tetrachloroethene	0.523	0.025	mg/kg wet	0.5000		105	61.6-133			
Toluene	0.519	0.025	mg/kg wet	0.5000		104	65.2-134			
trans-1,2-Dichloroethene	0.592	0.025	mg/kg wet	0.5000		118	47.7-151			
Trichloroethene	0.546	0.025	mg/kg wet	0.5000		109	67.3-132			
Vinyl chloride	0.901	0.025	mg/kg wet	0.5000		180	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.483		mg/kg wet	0.5000		96.6	44.1-130			
Surrogate: Toluene-d8	0.487		mg/kg wet	0.5000		97.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.506		mg/kg wet	0.5000		101	54.2-145			

Matrix Spike (K605002-MS1)

Source: K162001-10

Prepared: 05/10/2016 Analyzed: 05/10/2016 23:23

1,1,1-Trichloroethane	0.894	0.029	mg/kg dry	0.9589	ND	93.3	55.3-131			
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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605002 - EPA 3550B

Matrix Spike (K605002-MS1)	Source: K162001-10			Prepared: 05/10/2016 Analyzed: 05/10/2016 23:23						
1,1,2,2-Tetrachloroethane	0.831	0.029	mg/kg dry	0.9589	ND	86.7	29.5-139			
1,1,2-Trichloroethane	0.826	0.029	mg/kg dry	0.9589	ND	86.1	56.2-134			
1,1-Dichloroethane	0.913	0.029	mg/kg dry	0.9589	ND	95.2	53.1-134			
1,1-Dichloroethene	0.898	0.029	mg/kg dry	0.9589	ND	93.7	20.5-183			
1,2,3-Trichlorobenzene	0.769	0.029	mg/kg dry	0.9589	ND	80.2	52-117			
1,2,4-Trichlorobenzene	0.836	0.029	mg/kg dry	0.9589	ND	87.2	58.7-116			
1,2,4-Trimethylbenzene	0.923	0.029	mg/kg dry	0.9589	ND	96.2	66.1-129			
1,2-Dichlorobenzene	0.858	0.029	mg/kg dry	0.9589	ND	89.5	71.9-113			
1,2-Dichloroethane	0.852	0.029	mg/kg dry	0.9589	ND	88.9	56.5-128			
1,3,5-Trimethylbenzene	0.918	0.029	mg/kg dry	0.9589	ND	95.8	65.4-133			
1,3-Dichlorobenzene	0.909	0.029	mg/kg dry	0.9589	ND	94.8	62.7-125			
1,4-Dichlorobenzene	0.892	0.029	mg/kg dry	0.9589	ND	93.0	61.9-122			
2-Chlorotoluene	0.894	0.029	mg/kg dry	0.9589	ND	93.3	67.4-133			
4-Chlorotoluene	0.898	0.029	mg/kg dry	0.9589	ND	93.6	63.3-132			
Benzene	0.853	0.029	mg/kg dry	0.9589	ND	89.0	55.4-126			
Carbon tetrachloride	0.912	0.029	mg/kg dry	0.9589	ND	95.1	44.2-136			
Chlorobenzene	0.881	0.029	mg/kg dry	0.9589	ND	91.8	69.8-113			
Chloroform	0.871	0.029	mg/kg dry	0.9589	ND	90.9	60.6-127			
Chloromethane	1.02	0.059	mg/kg dry	0.9589	ND	106	13.4-199			
cis-1,2-Dichloroethene	0.872	0.029	mg/kg dry	0.9589	ND	91.0	27.4-176			
Ethylbenzene	0.914	0.029	mg/kg dry	0.9589	ND	95.3	71.8-116			
Isopropylbenzene	0.904	0.029	mg/kg dry	0.9589	ND	94.3	74.2-123			
m,p-Xylene	1.79	0.059	mg/kg dry	1.918	ND	93.1	71.1-111			
Methylene chloride	0.799	0.12	mg/kg dry	0.9589	ND	83.3	67.2-127			
Naphthalene	0.699	0.029	mg/kg dry	0.9589	ND	72.9	51.2-119			
n-Butyl Benzene	0.945	0.029	mg/kg dry	0.9589	ND	98.5	70.8-124			
n-Propyl Benzene	0.904	0.029	mg/kg dry	0.9589	ND	94.3	64.2-140			
o-Xylene	0.894	0.029	mg/kg dry	0.9589	ND	93.2	68.4-113			
p-Isopropyltoluene	0.914	0.029	mg/kg dry	0.9589	ND	95.3	69.8-128			
sec-Butyl Benzene	0.932	0.029	mg/kg dry	0.9589	ND	97.2	68.2-129			
Styrene	0.874	0.029	mg/kg dry	0.9589	ND	91.1	70.5-119			
tert-Butylbenzene	0.898	0.029	mg/kg dry	0.9589	ND	93.7	68.3-131			
Tetrachloroethene	0.909	0.029	mg/kg dry	0.9589	ND	94.8	35.4-165			
Toluene	0.886	0.029	mg/kg dry	0.9589	ND	92.4	59.9-117			
trans-1,2-Dichloroethene	0.898	0.029	mg/kg dry	0.9589	ND	93.7	34.4-160			
Trichloroethene	0.902	0.029	mg/kg dry	0.9589	ND	94.1	27.7-173			
Vinyl chloride	0.956	0.029	mg/kg dry	0.9589	ND	99.8	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.783		mg/kg dry	0.9589		81.6	44.1-130			
Surrogate: Toluene-d8	0.823		mg/kg dry	0.9589		85.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.842		mg/kg dry	0.9589		87.8	54.2-145			

Matrix Spike Dup (K605002-MSD1)	Source: K162001-10			Prepared: 05/10/2016 Analyzed: 05/10/2016 23:49						
1,1,1-Trichloroethane	0.910	0.030	mg/kg dry	0.9773	ND	93.1	55.3-131	0.161	20	
1,1,2,2-Tetrachloroethane	0.847	0.030	mg/kg dry	0.9773	ND	86.7	29.5-139	0.0115	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605002 - EPA 3550B

Matrix Spike Dup (K605002-MSD1)

Source: K162001-10

Prepared: 05/10/2016 Analyzed: 05/10/2016 23:49

1,1,2-Trichloroethane	0.817	0.030	mg/kg dry	0.9773	ND	83.6	56.2-134	2.98	20	
1,1-Dichloroethane	0.929	0.030	mg/kg dry	0.9773	ND	95.0	53.1-134	0.217	20	
1,1-Dichloroethene	0.917	0.030	mg/kg dry	0.9773	ND	93.8	20.5-183	0.188	20	
1,2,3-Trichlorobenzene	0.792	0.030	mg/kg dry	0.9773	ND	81.0	52-117	1.02	20	
1,2,4-Trichlorobenzene	0.836	0.030	mg/kg dry	0.9773	ND	85.5	58.7-116	1.89	20	
1,2,4-Trimethylbenzene	0.920	0.030	mg/kg dry	0.9773	ND	94.1	66.1-129	2.24	20	
1,2-Dichlorobenzene	0.861	0.030	mg/kg dry	0.9773	ND	88.1	71.9-113	1.50	20	
1,2-Dichloroethane	0.848	0.030	mg/kg dry	0.9773	ND	86.8	56.5-128	2.40	20	
1,3,5-Trimethylbenzene	0.908	0.030	mg/kg dry	0.9773	ND	92.9	65.4-133	3.04	20	
1,3-Dichlorobenzene	0.909	0.030	mg/kg dry	0.9773	ND	93.0	62.7-125	1.89	20	
1,4-Dichlorobenzene	0.887	0.030	mg/kg dry	0.9773	ND	90.8	61.9-122	2.45	20	
2-Chlorotoluene	0.894	0.030	mg/kg dry	0.9773	ND	91.5	67.4-133	1.92	20	
4-Chlorotoluene	0.890	0.030	mg/kg dry	0.9773	ND	91.1	63.3-132	2.78	20	
Benzene	0.863	0.030	mg/kg dry	0.9773	ND	88.3	55.4-126	0.792	20	
Carbon tetrachloride	0.915	0.030	mg/kg dry	0.9773	ND	93.6	44.2-136	1.61	20	
Chlorobenzene	0.882	0.030	mg/kg dry	0.9773	ND	90.3	69.8-113	1.72	20	
Chloroform	0.869	0.030	mg/kg dry	0.9773	ND	88.9	60.6-127	2.21	20	
Chloromethane	1.08	0.060	mg/kg dry	0.9773	ND	111	13.4-199	3.90	20	
cis-1,2-Dichloroethene	0.910	0.030	mg/kg dry	0.9773	ND	93.1	27.4-176	2.36	20	
Ethylbenzene	0.875	0.030	mg/kg dry	0.9773	ND	89.5	71.8-116	6.30	20	
Isopropylbenzene	0.909	0.030	mg/kg dry	0.9773	ND	93.0	74.2-123	1.30	20	
m,p-Xylene	1.80	0.060	mg/kg dry	1.955	ND	92.1	71.1-111	1.06	20	
Methylene chloride	0.801	0.12	mg/kg dry	0.9773	ND	82.0	67.2-127	1.56	20	
Naphthalene	0.727	0.030	mg/kg dry	0.9773	ND	74.4	51.2-119	2.15	20	
n-Butyl Benzene	0.910	0.030	mg/kg dry	0.9773	ND	93.1	70.8-124	5.68	20	
n-Propyl Benzene	0.919	0.030	mg/kg dry	0.9773	ND	94.0	64.2-140	0.280	20	
o-Xylene	0.871	0.030	mg/kg dry	0.9773	ND	89.2	68.4-113	4.47	20	
p-Isopropyltoluene	0.910	0.030	mg/kg dry	0.9773	ND	93.1	69.8-128	2.35	20	
sec-Butyl Benzene	0.925	0.030	mg/kg dry	0.9773	ND	94.6	68.2-129	2.67	20	
Styrene	0.875	0.030	mg/kg dry	0.9773	ND	89.6	70.5-119	1.72	20	
tert-Butylbenzene	0.891	0.030	mg/kg dry	0.9773	ND	91.2	68.3-131	2.64	20	
Tetrachloroethene	0.897	0.030	mg/kg dry	0.9773	ND	91.8	35.4-165	3.18	20	
Toluene	0.888	0.030	mg/kg dry	0.9773	ND	90.9	59.9-117	1.70	20	
trans-1,2-Dichloroethene	0.894	0.030	mg/kg dry	0.9773	ND	91.4	34.4-160	2.40	20	
Trichloroethene	0.905	0.030	mg/kg dry	0.9773	ND	92.6	27.7-173	1.62	20	
Vinyl chloride	1.03	0.030	mg/kg dry	0.9773	ND	105	17.8-199	5.47	20	
Surrogate: 1-Bromo-2-chloroethane	0.805		mg/kg dry	0.9773		82.4	44.1-130			
Surrogate: Toluene-d8	0.823		mg/kg dry	0.9773		84.3	42-136			
Surrogate: 4-Bromofluorobenzene	0.842		mg/kg dry	0.9773		86.2	54.2-145			



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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605005 - EPA 3550B

Blank (K605005-BLK1)

Prepared: 05/11/2016 Analyzed: 05/11/2016 17:28

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.481		mg/kg wet	0.5000		96.3	44.1-130			
Surrogate: Toluene-d8	0.490		mg/kg wet	0.5000		98.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.472		mg/kg wet	0.5000		94.3	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605005 - EPA 3550B

LCS (K605005-BS1)

Prepared: 05/11/2016 Analyzed: 05/12/2016 01:08

1,1,1-Trichloroethane	0.528	0.025	mg/kg wet	0.5000		106	59.6-143			
1,1,2,2-Tetrachloroethane	0.475	0.025	mg/kg wet	0.5000		95.0	61.1-133			
1,1,2-Trichloroethane	0.449	0.025	mg/kg wet	0.5000		89.7	72.5-128			
1,1-Dichloroethane	0.555	0.025	mg/kg wet	0.5000		111	65-136			
1,1-Dichloroethene	0.658	0.025	mg/kg wet	0.5000		132	51.4-160			
1,2,3-Trichlorobenzene	0.514	0.025	mg/kg wet	0.5000		103	73.1-122			
1,2,4-Trichlorobenzene	0.522	0.025	mg/kg wet	0.5000		104	80.3-118			
1,2,4-Trimethylbenzene	0.507	0.025	mg/kg wet	0.5000		101	57.2-139			
1,2-Dichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	87.7-118			
1,2-Dichloroethane	0.482	0.025	mg/kg wet	0.5000		96.3	66.5-133			
1,3,5-Trimethylbenzene	0.499	0.025	mg/kg wet	0.5000		99.8	32-159			
1,3-Dichlorobenzene	0.513	0.025	mg/kg wet	0.5000		103	88.8-116			
1,4-Dichlorobenzene	0.518	0.025	mg/kg wet	0.5000		104	83.9-116			
2-Chlorotoluene	0.504	0.025	mg/kg wet	0.5000		101	87.3-130			
4-Chlorotoluene	0.499	0.025	mg/kg wet	0.5000		99.7	92.4-126			
Benzene	0.506	0.025	mg/kg wet	0.5000		101	67.1-128			
Carbon tetrachloride	0.542	0.025	mg/kg wet	0.5000		108	70.7-126			
Chlorobenzene	0.507	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.488	0.025	mg/kg wet	0.5000		97.5	73-127			
Chloromethane	0.833	0.050	mg/kg wet	0.5000		167	24.9-199			
cis-1,2-Dichloroethene	0.533	0.025	mg/kg wet	0.5000		107	67.7-129			
Ethylbenzene	0.489	0.025	mg/kg wet	0.5000		97.7	80.6-126			
Isopropylbenzene	0.493	0.025	mg/kg wet	0.5000		98.7	91.2-121			
m,p-Xylene	1.00	0.050	mg/kg wet	1.000		100	79-124			
Methylene chloride	0.513	0.10	mg/kg wet	0.5000		103	20-162			
Naphthalene	0.485	0.025	mg/kg wet	0.5000		97.1	64.2-125			
n-Butyl Benzene	0.498	0.025	mg/kg wet	0.5000		99.6	90.2-122			
n-Propyl Benzene	0.487	0.025	mg/kg wet	0.5000		97.5	84-139			
o-Xylene	0.503	0.025	mg/kg wet	0.5000		101	80.1-122			
p-Isopropyltoluene	0.501	0.025	mg/kg wet	0.5000		100	89-129			
sec-Butyl Benzene	0.500	0.025	mg/kg wet	0.5000		100	87.6-126			
Styrene	0.488	0.025	mg/kg wet	0.5000		97.7	82.8-116			
tert-Butylbenzene	0.492	0.025	mg/kg wet	0.5000		98.5	83.4-139			
Tetrachloroethene	0.527	0.025	mg/kg wet	0.5000		105	61.6-133			
Toluene	0.489	0.025	mg/kg wet	0.5000		97.9	65.2-134			
trans-1,2-Dichloroethene	0.584	0.025	mg/kg wet	0.5000		117	47.7-151			
Trichloroethene	0.517	0.025	mg/kg wet	0.5000		103	67.3-132			
Vinyl chloride	0.870	0.025	mg/kg wet	0.5000		174	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.451		mg/kg wet	0.5000		90.2	44.1-130			
Surrogate: Toluene-d8	0.474		mg/kg wet	0.5000		94.7	42-136			
Surrogate: 4-Bromofluorobenzene	0.471		mg/kg wet	0.5000		94.2	54.2-145			

Matrix Spike (K605005-MS1)

Source: K162002-04

Prepared: 05/11/2016 Analyzed: 05/12/2016 00:17

1,1,1-Trichloroethane	0.755	0.025	mg/kg dry	0.7734	ND	97.6	55.3-131			
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605005 - EPA 3550B

Matrix Spike (K605005-MS1)	Source: K162002-04			Prepared: 05/11/2016 Analyzed: 05/12/2016 00:17						
1,1,2,2-Tetrachloroethane	0.686	0.025	mg/kg dry	0.7734	ND	88.7	29.5-139			
1,1,2-Trichloroethane	0.675	0.025	mg/kg dry	0.7734	ND	87.2	56.2-134			
1,1-Dichloroethane	0.779	0.025	mg/kg dry	0.7734	ND	101	53.1-134			
1,1-Dichloroethene	0.771	0.025	mg/kg dry	0.7734	ND	99.6	20.5-183			
1,2,3-Trichlorobenzene	0.654	0.025	mg/kg dry	0.7734	ND	84.6	52-117			
1,2,4-Trichlorobenzene	0.698	0.025	mg/kg dry	0.7734	ND	90.2	58.7-116			
1,2,4-Trimethylbenzene	0.749	0.025	mg/kg dry	0.7734	ND	96.8	66.1-129			
1,2-Dichlorobenzene	0.705	0.025	mg/kg dry	0.7734	ND	91.2	71.9-113			
1,2-Dichloroethane	0.718	0.025	mg/kg dry	0.7734	ND	92.8	56.5-128			
1,3,5-Trimethylbenzene	0.733	0.025	mg/kg dry	0.7734	ND	94.8	65.4-133			
1,3-Dichlorobenzene	0.741	0.025	mg/kg dry	0.7734	ND	95.8	62.7-125			
1,4-Dichlorobenzene	0.737	0.025	mg/kg dry	0.7734	ND	95.3	61.9-122			
2-Chlorotoluene	0.714	0.025	mg/kg dry	0.7734	ND	92.3	67.4-133			
4-Chlorotoluene	0.707	0.025	mg/kg dry	0.7734	ND	91.4	63.3-132			
Benzene	0.723	0.025	mg/kg dry	0.7734	ND	93.5	55.4-126			
Carbon tetrachloride	0.767	0.025	mg/kg dry	0.7734	ND	99.2	44.2-136			
Chlorobenzene	0.728	0.025	mg/kg dry	0.7734	ND	94.1	69.8-113			
Chloroform	0.736	0.025	mg/kg dry	0.7734	ND	95.1	60.6-127			
Chloromethane	0.766	0.051	mg/kg dry	0.7734	ND	99.0	13.4-199			
cis-1,2-Dichloroethene	0.768	0.025	mg/kg dry	0.7734	ND	99.3	27.4-176			
Ethylbenzene	0.723	0.025	mg/kg dry	0.7734	ND	93.5	71.8-116			
Isopropylbenzene	0.737	0.025	mg/kg dry	0.7734	ND	95.3	74.2-123			
m,p-Xylene	1.45	0.051	mg/kg dry	1.547	ND	93.7	71.1-111			
Methylene chloride	0.669	0.10	mg/kg dry	0.7734	ND	86.5	67.2-127			
Naphthalene	0.594	0.025	mg/kg dry	0.7734	ND	76.8	51.2-119			
n-Butyl Benzene	0.744	0.025	mg/kg dry	0.7734	ND	96.2	70.8-124			
n-Propyl Benzene	0.725	0.025	mg/kg dry	0.7734	ND	93.8	64.2-140			
o-Xylene	0.718	0.025	mg/kg dry	0.7734	ND	92.8	68.4-113			
p-Isopropyltoluene	0.731	0.025	mg/kg dry	0.7734	ND	94.5	69.8-128			
sec-Butyl Benzene	0.751	0.025	mg/kg dry	0.7734	ND	97.1	68.2-129			
Styrene	0.701	0.025	mg/kg dry	0.7734	ND	90.6	70.5-119			
tert-Butylbenzene	0.740	0.025	mg/kg dry	0.7734	ND	95.7	68.3-131			
Tetrachloroethene	0.730	0.025	mg/kg dry	0.7734	ND	94.4	35.4-165			
Toluene	0.748	0.025	mg/kg dry	0.7734	ND	96.7	59.9-117			
trans-1,2-Dichloroethene	0.758	0.025	mg/kg dry	0.7734	ND	98.0	34.4-160			
Trichloroethene	0.746	0.025	mg/kg dry	0.7734	ND	96.5	27.7-173			
Vinyl chloride	0.774	0.025	mg/kg dry	0.7734	ND	100	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	0.702		mg/kg dry	0.7734		90.7	44.1-130			
<i>Surrogate: Toluene-d8</i>	0.710		mg/kg dry	0.7734		91.8	42-136			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.695		mg/kg dry	0.7734		89.9	54.2-145			

Matrix Spike Dup (K605005-MSD1)	Source: K162002-04			Prepared: 05/11/2016 Analyzed: 05/12/2016 00:43						
1,1,1-Trichloroethane	0.737	0.026	mg/kg dry	0.7854	ND	93.8	55.3-131	3.96	20	
1,1,2,2-Tetrachloroethane	0.689	0.026	mg/kg dry	0.7854	ND	87.8	29.5-139	1.09	20	



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605005 - EPA 3550B

Matrix Spike Dup (K605005-MSD1)	Source: K162002-04			Prepared: 05/11/2016 Analyzed: 05/12/2016 00:43						
1,1,2-Trichloroethane	0.646	0.026	mg/kg dry	0.7854	ND	82.3	56.2-134	5.83	20	
1,1-Dichloroethane	0.731	0.026	mg/kg dry	0.7854	ND	93.0	53.1-134	7.95	20	
1,1-Dichloroethene	0.783	0.026	mg/kg dry	0.7854	ND	99.7	20.5-183	0.0642	20	
1,2,3-Trichlorobenzene	0.680	0.026	mg/kg dry	0.7854	ND	86.6	52-117	2.29	20	
1,2,4-Trichlorobenzene	0.691	0.026	mg/kg dry	0.7854	ND	88.0	58.7-116	2.55	20	
1,2,4-Trimethylbenzene	0.719	0.026	mg/kg dry	0.7854	ND	91.5	66.1-129	5.63	20	
1,2-Dichlorobenzene	0.692	0.026	mg/kg dry	0.7854	ND	88.1	71.9-113	3.49	20	
1,2-Dichloroethane	0.677	0.026	mg/kg dry	0.7854	ND	86.2	56.5-128	7.40	20	
1,3,5-Trimethylbenzene	0.697	0.026	mg/kg dry	0.7854	ND	88.7	65.4-133	6.62	20	
1,3-Dichlorobenzene	0.704	0.026	mg/kg dry	0.7854	ND	89.6	62.7-125	6.69	20	
1,4-Dichlorobenzene	0.712	0.026	mg/kg dry	0.7854	ND	90.7	61.9-122	4.93	20	
2-Chlorotoluene	0.691	0.026	mg/kg dry	0.7854	ND	88.0	67.4-133	4.84	20	
4-Chlorotoluene	0.693	0.026	mg/kg dry	0.7854	ND	88.2	63.3-132	3.53	20	
Benzene	0.699	0.026	mg/kg dry	0.7854	ND	89.0	55.4-126	4.90	20	
Carbon tetrachloride	0.752	0.026	mg/kg dry	0.7854	ND	95.8	44.2-136	3.49	20	
Chlorobenzene	0.717	0.026	mg/kg dry	0.7854	ND	91.3	69.8-113	2.98	20	
Chloroform	0.707	0.026	mg/kg dry	0.7854	ND	90.0	60.6-127	5.53	20	
Chloromethane	0.802	0.052	mg/kg dry	0.7854	ND	102	13.4-199	3.06	20	
cis-1,2-Dichloroethene	0.733	0.026	mg/kg dry	0.7854	ND	93.3	27.4-176	6.28	20	
Ethylbenzene	0.693	0.026	mg/kg dry	0.7854	ND	88.2	71.8-116	5.74	20	
Isopropylbenzene	0.707	0.026	mg/kg dry	0.7854	ND	90.1	74.2-123	5.68	20	
m,p-Xylene	1.42	0.052	mg/kg dry	1.571	ND	90.7	71.1-111	3.27	20	
Methylene chloride	0.657	0.10	mg/kg dry	0.7854	ND	83.6	67.2-127	3.36	20	
Naphthalene	0.669	0.026	mg/kg dry	0.7854	ND	85.2	51.2-119	10.4	20	
n-Butyl Benzene	0.713	0.026	mg/kg dry	0.7854	ND	90.8	70.8-124	5.82	20	
n-Propyl Benzene	0.695	0.026	mg/kg dry	0.7854	ND	88.5	64.2-140	5.78	20	
o-Xylene	0.712	0.026	mg/kg dry	0.7854	ND	90.7	68.4-113	2.26	20	
p-Isopropyltoluene	0.705	0.026	mg/kg dry	0.7854	ND	89.7	69.8-128	5.19	20	
sec-Butyl Benzene	0.727	0.026	mg/kg dry	0.7854	ND	92.5	68.2-129	4.84	20	
Styrene	0.702	0.026	mg/kg dry	0.7854	ND	89.4	70.5-119	1.33	20	
tert-Butylbenzene	0.705	0.026	mg/kg dry	0.7854	ND	89.8	68.3-131	6.37	20	
Tetrachloroethene	0.732	0.026	mg/kg dry	0.7854	ND	93.2	35.4-165	1.23	20	
Toluene	0.685	0.026	mg/kg dry	0.7854	ND	87.2	59.9-117	10.3	20	
trans-1,2-Dichloroethene	0.751	0.026	mg/kg dry	0.7854	ND	95.6	34.4-160	2.39	20	
Trichloroethene	0.734	0.026	mg/kg dry	0.7854	ND	93.5	27.7-173	3.13	20	
Vinyl chloride	0.830	0.026	mg/kg dry	0.7854	ND	106	17.8-199	5.33	20	
Surrogate: 1-Bromo-2-chloroethane	0.649		mg/kg dry	0.7854		82.6	44.1-130			
Surrogate: Toluene-d8	0.672		mg/kg dry	0.7854		85.6	42-136			
Surrogate: 4-Bromofluorobenzene	0.683		mg/kg dry	0.7854		87.0	54.2-145			



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605007 - EPA 3550B

Blank (K605007-BLK1)

Prepared: 05/12/2016 Analyzed: 05/13/2016 09:44

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.466		mg/kg wet	0.5000		93.1	44.1-130			
Surrogate: Toluene-d8	0.491		mg/kg wet	0.5000		98.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.515		mg/kg wet	0.5000		103	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605007 - EPA 3550B

LCS (K605007-BS1)

Prepared: 05/12/2016 Analyzed: 05/12/2016 22:56

1,1,1-Trichloroethane	0.568	0.025	mg/kg wet	0.5000		114	59.6-143			
1,1,2,2-Tetrachloroethane	0.503	0.025	mg/kg wet	0.5000		101	61.1-133			
1,1,2-Trichloroethane	0.479	0.025	mg/kg wet	0.5000		95.9	72.5-128			
1,1-Dichloroethane	0.598	0.025	mg/kg wet	0.5000		120	65-136			
1,1-Dichloroethene	0.659	0.025	mg/kg wet	0.5000		132	51.4-160			
1,2,3-Trichlorobenzene	0.491	0.025	mg/kg wet	0.5000		98.2	73.1-122			
1,2,4-Trichlorobenzene	0.504	0.025	mg/kg wet	0.5000		101	80.3-118			
1,2,4-Trimethylbenzene	0.529	0.025	mg/kg wet	0.5000		106	57.2-139			
1,2-Dichlorobenzene	0.509	0.025	mg/kg wet	0.5000		102	87.7-118			
1,2-Dichloroethane	0.532	0.025	mg/kg wet	0.5000		106	66.5-133			
1,3,5-Trimethylbenzene	0.529	0.025	mg/kg wet	0.5000		106	32-159			
1,3-Dichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	88.8-116			
1,4-Dichlorobenzene	0.531	0.025	mg/kg wet	0.5000		106	83.9-116			
2-Chlorotoluene	0.510	0.025	mg/kg wet	0.5000		102	87.3-130			
4-Chlorotoluene	0.516	0.025	mg/kg wet	0.5000		103	92.4-126			
Benzene	0.548	0.025	mg/kg wet	0.5000		110	67.1-128			
Carbon tetrachloride	0.580	0.025	mg/kg wet	0.5000		116	70.7-126			
Chlorobenzene	0.521	0.025	mg/kg wet	0.5000		104	83.1-114			
Chloroform	0.534	0.025	mg/kg wet	0.5000		107	73-127			
Chloromethane	0.665	0.050	mg/kg wet	0.5000		133	24.9-199			
cis-1,2-Dichloroethene	0.580	0.025	mg/kg wet	0.5000		116	67.7-129			
Ethylbenzene	0.507	0.025	mg/kg wet	0.5000		101	80.6-126			
Isopropylbenzene	0.516	0.025	mg/kg wet	0.5000		103	91.2-121			
m,p-Xylene	1.04	0.050	mg/kg wet	1.000		104	79-124			
Methylene chloride	0.541	0.10	mg/kg wet	0.5000		108	20-162			
Naphthalene	0.464	0.025	mg/kg wet	0.5000		92.8	64.2-125			
n-Butyl Benzene	0.498	0.025	mg/kg wet	0.5000		99.7	90.2-122			
n-Propyl Benzene	0.516	0.025	mg/kg wet	0.5000		103	84-139			
o-Xylene	0.526	0.025	mg/kg wet	0.5000		105	80.1-122			
p-Isopropyltoluene	0.514	0.025	mg/kg wet	0.5000		103	89-129			
sec-Butyl Benzene	0.517	0.025	mg/kg wet	0.5000		103	87.6-126			
Styrene	0.505	0.025	mg/kg wet	0.5000		101	82.8-116			
tert-Butylbenzene	0.514	0.025	mg/kg wet	0.5000		103	83.4-139			
Tetrachloroethene	0.556	0.025	mg/kg wet	0.5000		111	61.6-133			
Toluene	0.529	0.025	mg/kg wet	0.5000		106	65.2-134			
trans-1,2-Dichloroethene	0.609	0.025	mg/kg wet	0.5000		122	47.7-151			
Trichloroethene	0.553	0.025	mg/kg wet	0.5000		111	67.3-132			
Vinyl chloride	0.739	0.025	mg/kg wet	0.5000		148	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.494		mg/kg wet	0.5000		98.8	44.1-130			
Surrogate: Toluene-d8	0.520		mg/kg wet	0.5000		104	42-136			
Surrogate: 4-Bromofluorobenzene	0.501		mg/kg wet	0.5000		100	54.2-145			

Matrix Spike (K605007-MS1)

Source: K162003-04

Prepared: 05/12/2016 Analyzed: 05/12/2016 22:04

1,1,1-Trichloroethane	1.01	0.027	mg/kg dry	0.8206	ND	124	55.3-131			
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605007 - EPA 3550B

Matrix Spike (K605007-MS1)	Source: K162003-04			Prepared: 05/12/2016 Analyzed: 05/12/2016 22:04						
1,1,2,2-Tetrachloroethane	0.890	0.027	mg/kg dry	0.8206	ND	109	29.5-139			
1,1,2-Trichloroethane	0.907	0.027	mg/kg dry	0.8206	ND	111	56.2-134			
1,1-Dichloroethane	1.03	0.027	mg/kg dry	0.8206	ND	125	53.1-134			
1,1-Dichloroethene	1.06	0.027	mg/kg dry	0.8206	ND	129	20.5-183			
1,2,3-Trichlorobenzene	0.801	0.027	mg/kg dry	0.8206	ND	97.7	52-117			
1,2,4-Trichlorobenzene	0.878	0.027	mg/kg dry	0.8206	ND	107	58.7-116			
1,2,4-Trimethylbenzene	0.995	0.027	mg/kg dry	0.8206	ND	121	66.1-129			
1,2-Dichlorobenzene	0.920	0.027	mg/kg dry	0.8206	ND	112	71.9-113			
1,2-Dichloroethane	0.965	0.027	mg/kg dry	0.8206	ND	118	56.5-128			
1,3,5-Trimethylbenzene	0.971	0.027	mg/kg dry	0.8206	ND	118	65.4-133			
1,3-Dichlorobenzene	0.979	0.027	mg/kg dry	0.8206	ND	119	62.7-125			
1,4-Dichlorobenzene	0.957	0.027	mg/kg dry	0.8206	ND	117	61.9-122			
2-Chlorotoluene	0.977	0.027	mg/kg dry	0.8206	ND	119	67.4-133			
4-Chlorotoluene	1.02	0.027	mg/kg dry	0.8206	ND	124	63.3-132			
Benzene	0.976	0.027	mg/kg dry	0.8206	ND	119	55.4-126			
Carbon tetrachloride	1.03	0.027	mg/kg dry	0.8206	ND	125	44.2-136			
Chlorobenzene	0.974	0.027	mg/kg dry	0.8206	ND	119	69.8-113			M
Chloroform	0.987	0.027	mg/kg dry	0.8206	ND	120	60.6-127			
Chloromethane	0.961	0.054	mg/kg dry	0.8206	ND	117	13.4-199			
cis-1,2-Dichloroethene	1.02	0.027	mg/kg dry	0.8206	ND	124	27.4-176			
Ethylbenzene	0.919	0.027	mg/kg dry	0.8206	ND	112	71.8-116			
Isopropylbenzene	0.966	0.027	mg/kg dry	0.8206	ND	118	74.2-123			
m,p-Xylene	1.91	0.054	mg/kg dry	1.641	ND	117	71.1-111			M
Methylene chloride	0.912	0.11	mg/kg dry	0.8206	ND	111	67.2-127			
Naphthalene	0.732	0.027	mg/kg dry	0.8206	ND	89.2	51.2-119			
n-Butyl Benzene	0.979	0.027	mg/kg dry	0.8206	ND	119	70.8-124			
n-Propyl Benzene	0.957	0.027	mg/kg dry	0.8206	ND	117	64.2-140			
o-Xylene	0.977	0.027	mg/kg dry	0.8206	ND	119	68.4-113			M
p-Isopropyltoluene	0.991	0.027	mg/kg dry	0.8206	ND	121	69.8-128			
sec-Butyl Benzene	0.999	0.027	mg/kg dry	0.8206	ND	122	68.2-129			
Styrene	0.934	0.027	mg/kg dry	0.8206	ND	114	70.5-119			
tert-Butylbenzene	0.983	0.027	mg/kg dry	0.8206	ND	120	68.3-131			
Tetrachloroethene	0.973	0.027	mg/kg dry	0.8206	ND	119	35.4-165			
Toluene	0.976	0.027	mg/kg dry	0.8206	ND	119	59.9-117			M
trans-1,2-Dichloroethene	1.01	0.027	mg/kg dry	0.8206	ND	123	34.4-160			
Trichloroethene	1.01	0.027	mg/kg dry	0.8206	ND	123	27.7-173			
Vinyl chloride	1.04	0.027	mg/kg dry	0.8206	ND	127	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.835		mg/kg dry	0.8206		102	44.1-130			
Surrogate: Toluene-d8	0.882		mg/kg dry	0.8206		108	42-136			
Surrogate: 4-Bromofluorobenzene	0.855		mg/kg dry	0.8206		104	54.2-145			

Matrix Spike Dup (K605007-MSD1)	Source: K162003-04			Prepared: 05/12/2016 Analyzed: 05/12/2016 22:30						
1,1,1-Trichloroethane	1.00	0.026	mg/kg dry	0.7931	ND	126	55.3-131	2.14	20	
1,1,2,2-Tetrachloroethane	0.861	0.026	mg/kg dry	0.7931	ND	109	29.5-139	0.0350	20	



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605007 - EPA 3550B

Matrix Spike Dup (K605007-MSD1)	Source: K162003-04			Prepared: 05/12/2016 Analyzed: 05/12/2016 22:30						
1,1,2-Trichloroethane	0.874	0.026	mg/kg dry	0.7931	ND	110	56.2-134	0.301	20	
1,1-Dichloroethane	1.01	0.026	mg/kg dry	0.7931	ND	127	53.1-134	1.58	20	
1,1-Dichloroethene	1.03	0.026	mg/kg dry	0.7931	ND	130	20.5-183	0.778	20	
1,2,3-Trichlorobenzene	0.791	0.026	mg/kg dry	0.7931	ND	99.7	52-117	2.05	20	
1,2,4-Trichlorobenzene	0.864	0.026	mg/kg dry	0.7931	ND	109	58.7-116	1.78	20	
1,2,4-Trimethylbenzene	0.970	0.026	mg/kg dry	0.7931	ND	122	66.1-129	0.806	20	
1,2-Dichlorobenzene	0.899	0.026	mg/kg dry	0.7931	ND	113	71.9-113	1.02	20	
1,2-Dichloroethane	0.933	0.026	mg/kg dry	0.7931	ND	118	56.5-128	0.0697	20	
1,3,5-Trimethylbenzene	0.963	0.026	mg/kg dry	0.7931	ND	121	65.4-133	2.52	20	
1,3-Dichlorobenzene	0.938	0.026	mg/kg dry	0.7931	ND	118	62.7-125	0.911	20	
1,4-Dichlorobenzene	0.960	0.026	mg/kg dry	0.7931	ND	121	61.9-122	3.78	20	
2-Chlorotoluene	0.940	0.026	mg/kg dry	0.7931	ND	119	67.4-133	0.446	20	
4-Chlorotoluene	0.958	0.026	mg/kg dry	0.7931	ND	121	63.3-132	2.86	20	
Benzene	0.958	0.026	mg/kg dry	0.7931	ND	121	55.4-126	1.59	20	
Carbon tetrachloride	1.01	0.026	mg/kg dry	0.7931	ND	127	44.2-136	1.69	20	
Chlorobenzene	0.958	0.026	mg/kg dry	0.7931	ND	121	69.8-113	1.77	20	M
Chloroform	0.945	0.026	mg/kg dry	0.7931	ND	119	60.6-127	0.959	20	
Chloromethane	0.895	0.052	mg/kg dry	0.7931	ND	113	13.4-199	3.70	20	
cis-1,2-Dichloroethene	0.994	0.026	mg/kg dry	0.7931	ND	125	27.4-176	0.742	20	
Ethylbenzene	0.961	0.026	mg/kg dry	0.7931	ND	121	71.8-116	7.83	20	M
Isopropylbenzene	0.961	0.026	mg/kg dry	0.7931	ND	121	74.2-123	2.93	20	
m,p-Xylene	1.93	0.052	mg/kg dry	1.586	ND	121	71.1-111	3.99	20	M
Methylene chloride	0.912	0.10	mg/kg dry	0.7931	ND	115	67.2-127	3.48	20	
Naphthalene	0.726	0.026	mg/kg dry	0.7931	ND	91.6	51.2-119	2.59	20	
n-Butyl Benzene	0.963	0.026	mg/kg dry	0.7931	ND	121	70.8-124	1.70	20	
n-Propyl Benzene	0.947	0.026	mg/kg dry	0.7931	ND	119	64.2-140	2.30	20	
o-Xylene	0.962	0.026	mg/kg dry	0.7931	ND	121	68.4-113	1.81	20	M
p-Isopropyltoluene	0.974	0.026	mg/kg dry	0.7931	ND	123	69.8-128	1.67	20	
sec-Butyl Benzene	0.989	0.026	mg/kg dry	0.7931	ND	125	68.2-129	2.38	20	
Styrene	0.918	0.026	mg/kg dry	0.7931	ND	116	70.5-119	1.69	20	
tert-Butylbenzene	0.968	0.026	mg/kg dry	0.7931	ND	122	68.3-131	1.79	20	
Tetrachloroethene	0.977	0.026	mg/kg dry	0.7931	ND	123	35.4-165	3.88	20	
Toluene	0.944	0.026	mg/kg dry	0.7931	ND	119	59.9-117	0.103	20	M
trans-1,2-Dichloroethene	1.00	0.026	mg/kg dry	0.7931	ND	126	34.4-160	2.64	20	
Trichloroethene	0.997	0.026	mg/kg dry	0.7931	ND	126	27.7-173	1.92	20	
Vinyl chloride	1.02	0.026	mg/kg dry	0.7931	ND	128	17.8-199	0.881	20	
Surrogate: 1-Bromo-2-chloroethane	0.867		mg/kg dry	0.7931		109	44.1-130			
Surrogate: Toluene-d8	0.892		mg/kg dry	0.7931		113	42-136			
Surrogate: 4-Bromofluorobenzene	0.879		mg/kg dry	0.7931		111	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605008 - EPA 3550B

Blank (K605008-BLK1)

Prepared: 05/13/2016 Analyzed: 05/13/2016 10:10

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.454		mg/kg wet	0.5000		90.9	44.1-130			
Surrogate: Toluene-d8	0.473		mg/kg wet	0.5000		94.6	42-136			
Surrogate: 4-Bromofluorobenzene	0.522		mg/kg wet	0.5000		104	54.2-145			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605008 - EPA 3550B

LCS (K605008-BS1)

Prepared: 05/13/2016 Analyzed: 05/13/2016 12:18

1,1,1-Trichloroethane	0.488	0.025	mg/kg wet	0.5000		97.7	59.6-143			
1,1,2,2-Tetrachloroethane	0.502	0.025	mg/kg wet	0.5000		100	61.1-133			
1,1,2-Trichloroethane	0.594	0.025	mg/kg wet	0.5000		119	72.5-128			
1,1-Dichloroethane	0.485	0.025	mg/kg wet	0.5000		97.1	65-136			
1,1-Dichloroethene	0.541	0.025	mg/kg wet	0.5000		108	51.4-160			
1,2,3-Trichlorobenzene	0.581	0.025	mg/kg wet	0.5000		116	73.1-122			
1,2,4-Trichlorobenzene	0.578	0.025	mg/kg wet	0.5000		116	80.3-118			
1,2,4-Trimethylbenzene	0.446	0.025	mg/kg wet	0.5000		89.1	57.2-139			
1,2-Dichlorobenzene	0.519	0.025	mg/kg wet	0.5000		104	87.7-118			
1,2-Dichloroethane	0.505	0.025	mg/kg wet	0.5000		101	66.5-133			
1,3,5-Trimethylbenzene	0.422	0.025	mg/kg wet	0.5000		84.5	32-159			
1,3-Dichlorobenzene	0.492	0.025	mg/kg wet	0.5000		98.4	88.8-116			
1,4-Dichlorobenzene	0.505	0.025	mg/kg wet	0.5000		101	83.9-116			
2-Chlorotoluene	0.432	0.025	mg/kg wet	0.5000		86.5	87.3-130			
4-Chlorotoluene	0.456	0.025	mg/kg wet	0.5000		91.3	92.4-126			
Benzene	0.476	0.025	mg/kg wet	0.5000		95.1	67.1-128			
Carbon tetrachloride	0.484	0.025	mg/kg wet	0.5000		96.8	70.7-126			
Chlorobenzene	0.504	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.487	0.025	mg/kg wet	0.5000		97.4	73-127			
Chloromethane	0.510	0.050	mg/kg wet	0.5000		102	24.9-199			
cis-1,2-Dichloroethene	0.491	0.025	mg/kg wet	0.5000		98.2	67.7-129			
Ethylbenzene	0.470	0.025	mg/kg wet	0.5000		94.0	80.6-126			
Isopropylbenzene	0.528	0.025	mg/kg wet	0.5000		106	91.2-121			
m,p-Xylene	0.987	0.050	mg/kg wet	1.000		98.7	79-124			
Methylene chloride	0.426	0.10	mg/kg wet	0.5000		85.2	20-162			
Naphthalene	0.555	0.025	mg/kg wet	0.5000		111	64.2-125			
n-Butyl Benzene	0.470	0.025	mg/kg wet	0.5000		94.0	90.2-122			
n-Propyl Benzene	0.410	0.025	mg/kg wet	0.5000		82.1	84-139			
o-Xylene	0.516	0.025	mg/kg wet	0.5000		103	80.1-122			
p-Isopropyltoluene	0.450	0.025	mg/kg wet	0.5000		90.0	89-129			
sec-Butyl Benzene	0.445	0.025	mg/kg wet	0.5000		89.0	87.6-126			
Styrene	0.539	0.025	mg/kg wet	0.5000		108	82.8-116			
tert-Butylbenzene	0.431	0.025	mg/kg wet	0.5000		86.3	83.4-139			
Tetrachloroethene	0.416	0.025	mg/kg wet	0.5000		83.1	61.6-133			
Toluene	0.507	0.025	mg/kg wet	0.5000		101	65.2-134			
trans-1,2-Dichloroethene	0.472	0.025	mg/kg wet	0.5000		94.4	47.7-151			
Trichloroethene	0.494	0.025	mg/kg wet	0.5000		98.8	67.3-132			
Vinyl chloride	0.546	0.025	mg/kg wet	0.5000		109	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.497		mg/kg wet	0.5000		99.4	44.1-130			
Surrogate: Toluene-d8	0.500		mg/kg wet	0.5000		100	42-136			
Surrogate: 4-Bromofluorobenzene	0.584		mg/kg wet	0.5000		117	54.2-145			

Matrix Spike (K605008-MS1)

Source: K162004-04

Prepared: 05/13/2016 Analyzed: 05/13/2016 17:26

1,1,1-Trichloroethane	0.517	0.027	mg/kg dry	0.5978	ND	86.5	55.3-131			
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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605008 - EPA 3550B

Matrix Spike (K605008-MS1)	Source: K162004-04			Prepared: 05/13/2016 Analyzed: 05/13/2016 17:26						
1,1,2,2-Tetrachloroethane	0.496	0.027	mg/kg dry	0.5978	ND	83.0	29.5-139			
1,1,2-Trichloroethane	0.524	0.027	mg/kg dry	0.5978	ND	87.6	56.2-134			
1,1-Dichloroethane	0.546	0.027	mg/kg dry	0.5978	ND	91.2	53.1-134			
1,1-Dichloroethene	0.572	0.027	mg/kg dry	0.5978	ND	95.7	20.5-183			
1,2,3-Trichlorobenzene	0.467	0.027	mg/kg dry	0.5978	ND	78.2	52-117			
1,2,4-Trichlorobenzene	0.497	0.027	mg/kg dry	0.5978	ND	83.2	58.7-116			
1,2,4-Trimethylbenzene	0.573	0.027	mg/kg dry	0.5978	ND	95.8	66.1-129			
1,2-Dichlorobenzene	0.542	0.027	mg/kg dry	0.5978	ND	90.6	71.9-113			
1,2-Dichloroethane	0.517	0.027	mg/kg dry	0.5978	ND	86.4	56.5-128			
1,3,5-Trimethylbenzene	0.553	0.027	mg/kg dry	0.5978	ND	92.5	65.4-133			
1,3-Dichlorobenzene	0.562	0.027	mg/kg dry	0.5978	ND	94.0	62.7-125			
1,4-Dichlorobenzene	0.580	0.027	mg/kg dry	0.5978	ND	97.0	61.9-122			
2-Chlorotoluene	0.545	0.027	mg/kg dry	0.5978	ND	91.1	67.4-133			
4-Chlorotoluene	0.540	0.027	mg/kg dry	0.5978	ND	90.3	63.3-132			
Benzene	0.526	0.027	mg/kg dry	0.5978	ND	87.9	55.4-126			
Carbon tetrachloride	0.522	0.027	mg/kg dry	0.5978	ND	87.4	44.2-136			
Chlorobenzene	0.566	0.027	mg/kg dry	0.5978	ND	94.6	69.8-113			
Chloroform	0.523	0.027	mg/kg dry	0.5978	ND	87.5	60.6-127			
Chloromethane	0.489	0.054	mg/kg dry	0.5978	ND	81.9	13.4-199			
cis-1,2-Dichloroethene	0.537	0.027	mg/kg dry	0.5978	ND	89.7	27.4-176			
Ethylbenzene	0.556	0.027	mg/kg dry	0.5978	ND	93.0	71.8-116			
Isopropylbenzene	0.571	0.027	mg/kg dry	0.5978	ND	95.4	74.2-123			
m,p-Xylene	1.14	0.054	mg/kg dry	1.196	ND	95.3	71.1-111			
Methylene chloride	0.470	0.11	mg/kg dry	0.5978	ND	78.7	67.2-127			
Naphthalene	0.456	0.027	mg/kg dry	0.5978	ND	76.3	51.2-119			
n-Butyl Benzene	0.561	0.027	mg/kg dry	0.5978	ND	93.8	70.8-124			
n-Propyl Benzene	0.553	0.027	mg/kg dry	0.5978	ND	92.5	64.2-140			
o-Xylene	0.573	0.027	mg/kg dry	0.5978	ND	95.9	68.4-113			
p-Isopropyltoluene	0.577	0.027	mg/kg dry	0.5978	ND	96.5	69.8-128			
sec-Butyl Benzene	0.571	0.027	mg/kg dry	0.5978	ND	95.4	68.2-129			
Styrene	0.553	0.027	mg/kg dry	0.5978	ND	92.5	70.5-119			
tert-Butylbenzene	0.568	0.027	mg/kg dry	0.5978	ND	95.1	68.3-131			
Tetrachloroethene	0.548	0.027	mg/kg dry	0.5978	ND	91.7	35.4-165			
Toluene	0.570	0.027	mg/kg dry	0.5978	ND	95.3	59.9-117			
trans-1,2-Dichloroethene	0.520	0.027	mg/kg dry	0.5978	ND	87.0	34.4-160			
Trichloroethene	0.559	0.027	mg/kg dry	0.5978	ND	93.5	27.7-173			
Vinyl chloride	0.520	0.027	mg/kg dry	0.5978	ND	86.9	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.539		mg/kg dry	0.5978		90.2	44.1-130			
Surrogate: Toluene-d8	0.559		mg/kg dry	0.5978		93.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.531		mg/kg dry	0.5978		88.8	54.2-145			

Matrix Spike Dup (K605008-MSD1)	Source: K162004-04			Prepared: 05/13/2016 Analyzed: 05/13/2016 17:00						
1,1,1-Trichloroethane	0.518	0.026	mg/kg dry	0.5641	ND	91.9	55.3-131	6.05	20	
1,1,1,2-Tetrachloroethane	0.483	0.026	mg/kg dry	0.5641	ND	85.7	29.5-139	3.21	20	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605008 - EPA 3550B

Matrix Spike Dup (K605008-MSD1)	Source: K162004-04			Prepared: 05/13/2016 Analyzed: 05/13/2016 17:00						
1,1,2-Trichloroethane	0.478	0.026	mg/kg dry	0.5641	ND	84.7	56.2-134	3.37	20	
1,1-Dichloroethane	0.513	0.026	mg/kg dry	0.5641	ND	91.0	53.1-134	0.268	20	
1,1-Dichloroethene	0.572	0.026	mg/kg dry	0.5641	ND	101	20.5-183	5.82	20	
1,2,3-Trichlorobenzene	0.424	0.026	mg/kg dry	0.5641	ND	75.2	52-117	3.89	20	
1,2,4-Trichlorobenzene	0.457	0.026	mg/kg dry	0.5641	ND	81.0	58.7-116	2.60	20	
1,2,4-Trimethylbenzene	0.560	0.026	mg/kg dry	0.5641	ND	99.3	66.1-129	3.61	20	
1,2-Dichlorobenzene	0.510	0.026	mg/kg dry	0.5641	ND	90.4	71.9-113	0.194	20	
1,2-Dichloroethane	0.487	0.026	mg/kg dry	0.5641	ND	86.3	56.5-128	0.171	20	
1,3,5-Trimethylbenzene	0.567	0.026	mg/kg dry	0.5641	ND	100	65.4-133	8.24	20	
1,3-Dichlorobenzene	0.543	0.026	mg/kg dry	0.5641	ND	96.3	62.7-125	2.37	20	
1,4-Dichlorobenzene	0.549	0.026	mg/kg dry	0.5641	ND	97.4	61.9-122	0.397	20	
2-Chlorotoluene	0.551	0.026	mg/kg dry	0.5641	ND	97.8	67.4-133	7.03	20	
4-Chlorotoluene	0.549	0.026	mg/kg dry	0.5641	ND	97.4	63.3-132	7.57	20	
Benzene	0.511	0.026	mg/kg dry	0.5641	ND	90.6	55.4-126	2.99	20	
Carbon tetrachloride	0.512	0.026	mg/kg dry	0.5641	ND	90.8	44.2-136	3.84	20	
Chlorobenzene	0.541	0.026	mg/kg dry	0.5641	ND	95.9	69.8-113	1.34	20	
Chloroform	0.500	0.026	mg/kg dry	0.5641	ND	88.6	60.6-127	1.31	20	
Chloromethane	0.574	0.051	mg/kg dry	0.5641	ND	102	13.4-199	21.7	20	X
cis-1,2-Dichloroethene	0.513	0.026	mg/kg dry	0.5641	ND	91.0	27.4-176	1.35	20	
Ethylbenzene	0.524	0.026	mg/kg dry	0.5641	ND	93.0	71.8-116	0.0602	20	
Isopropylbenzene	0.553	0.026	mg/kg dry	0.5641	ND	98.0	74.2-123	2.61	20	
m,p-Xylene	1.11	0.051	mg/kg dry	1.128	ND	98.7	71.1-111	3.47	20	
Methylene chloride	0.450	0.10	mg/kg dry	0.5641	ND	79.8	67.2-127	1.35	20	
Naphthalene	0.403	0.026	mg/kg dry	0.5641	ND	71.5	51.2-119	6.43	20	
n-Butyl Benzene	0.539	0.026	mg/kg dry	0.5641	ND	95.6	70.8-124	1.91	20	
n-Propyl Benzene	0.567	0.026	mg/kg dry	0.5641	ND	101	64.2-140	8.32	20	
o-Xylene	0.553	0.026	mg/kg dry	0.5641	ND	98.1	68.4-113	2.22	20	
p-Isopropyltoluene	0.556	0.026	mg/kg dry	0.5641	ND	98.6	69.8-128	2.09	20	
sec-Butyl Benzene	0.560	0.026	mg/kg dry	0.5641	ND	99.3	68.2-129	3.96	20	
Styrene	0.536	0.026	mg/kg dry	0.5641	ND	95.0	70.5-119	2.63	20	
tert-Butylbenzene	0.553	0.026	mg/kg dry	0.5641	ND	98.1	68.3-131	3.11	20	
Tetrachloroethene	0.557	0.026	mg/kg dry	0.5641	ND	98.7	35.4-165	7.31	20	
Toluene	0.547	0.026	mg/kg dry	0.5641	ND	96.9	59.9-117	1.72	20	
trans-1,2-Dichloroethene	0.530	0.026	mg/kg dry	0.5641	ND	94.0	34.4-160	7.67	20	
Trichloroethene	0.535	0.026	mg/kg dry	0.5641	ND	94.8	27.7-173	1.44	20	
Vinyl chloride	0.601	0.026	mg/kg dry	0.5641	ND	107	17.8-199	20.3	20	X
Surrogate: 1-Bromo-2-chloroethane	0.482		mg/kg dry	0.5641		85.5	44.1-130			
Surrogate: Toluene-d8	0.534		mg/kg dry	0.5641		94.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.516		mg/kg dry	0.5641		91.5	54.2-145			



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605010 - EPA 3550B

Blank (K605010-BLK1)

Prepared: 05/16/2016 Analyzed: 05/16/2016 19:38

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.530		mg/kg wet	0.5000		106	44.1-130			
Surrogate: Toluene-d8	0.524		mg/kg wet	0.5000		105	42-136			
Surrogate: 4-Bromofluorobenzene	0.513		mg/kg wet	0.5000		103	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605010 - EPA 3550B

LCS (K605010-BS1)

Prepared: 05/16/2016 Analyzed: 05/17/2016 01:09

1,1,1-Trichloroethane	0.532	0.025	mg/kg wet	0.5000		106	59.6-143			
1,1,2,2-Tetrachloroethane	0.455	0.025	mg/kg wet	0.5000		90.9	61.1-133			
1,1,2-Trichloroethane	0.547	0.025	mg/kg wet	0.5000		109	72.5-128			
1,1-Dichloroethane	0.523	0.025	mg/kg wet	0.5000		105	65-136			
1,1-Dichloroethene	0.620	0.025	mg/kg wet	0.5000		124	51.4-160			
1,2,3-Trichlorobenzene	0.449	0.025	mg/kg wet	0.5000		89.7	73.1-122			
1,2,4-Trichlorobenzene	0.467	0.025	mg/kg wet	0.5000		93.4	80.3-118			
1,2,4-Trimethylbenzene	0.499	0.025	mg/kg wet	0.5000		99.8	57.2-139			
1,2-Dichlorobenzene	0.503	0.025	mg/kg wet	0.5000		101	87.7-118			
1,2-Dichloroethane	0.531	0.025	mg/kg wet	0.5000		106	66.5-133			
1,3,5-Trimethylbenzene	0.487	0.025	mg/kg wet	0.5000		97.4	32-159			
1,3-Dichlorobenzene	0.503	0.025	mg/kg wet	0.5000		101	88.8-116			
1,4-Dichlorobenzene	0.494	0.025	mg/kg wet	0.5000		98.8	83.9-116			
2-Chlorotoluene	0.478	0.025	mg/kg wet	0.5000		95.6	87.3-130			
4-Chlorotoluene	0.478	0.025	mg/kg wet	0.5000		95.5	92.4-126			
Benzene	0.542	0.025	mg/kg wet	0.5000		108	67.1-128			
Carbon tetrachloride	0.521	0.025	mg/kg wet	0.5000		104	70.7-126			
Chlorobenzene	0.524	0.025	mg/kg wet	0.5000		105	83.1-114			
Chloroform	0.528	0.025	mg/kg wet	0.5000		106	73-127			
Chloromethane	0.508	0.050	mg/kg wet	0.5000		102	24.9-199			
cis-1,2-Dichloroethene	0.529	0.025	mg/kg wet	0.5000		106	67.7-129			
Ethylbenzene	0.493	0.025	mg/kg wet	0.5000		98.7	80.6-126			
Isopropylbenzene	0.536	0.025	mg/kg wet	0.5000		107	91.2-121			
m,p-Xylene	1.04	0.050	mg/kg wet	1.000		104	79-124			
Methylene chloride	0.474	0.10	mg/kg wet	0.5000		94.8	20-162			
Naphthalene	0.476	0.025	mg/kg wet	0.5000		95.2	64.2-125			
n-Butyl Benzene	0.499	0.025	mg/kg wet	0.5000		99.7	90.2-122			
n-Propyl Benzene	0.486	0.025	mg/kg wet	0.5000		97.2	84-139			
o-Xylene	0.537	0.025	mg/kg wet	0.5000		107	80.1-122			
p-Isopropyltoluene	0.493	0.025	mg/kg wet	0.5000		98.5	89-129			
sec-Butyl Benzene	0.499	0.025	mg/kg wet	0.5000		99.9	87.6-126			
Styrene	0.520	0.025	mg/kg wet	0.5000		104	82.8-116			
tert-Butylbenzene	0.505	0.025	mg/kg wet	0.5000		101	83.4-139			
Tetrachloroethene	0.485	0.025	mg/kg wet	0.5000		97.0	61.6-133			
Toluene	0.553	0.025	mg/kg wet	0.5000		111	65.2-134			
trans-1,2-Dichloroethene	0.543	0.025	mg/kg wet	0.5000		109	47.7-151			
Trichloroethene	0.523	0.025	mg/kg wet	0.5000		105	67.3-132			
Vinyl chloride	0.594	0.025	mg/kg wet	0.5000		119	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.507		mg/kg wet	0.5000		101	44.1-130			
Surrogate: Toluene-d8	0.545		mg/kg wet	0.5000		109	42-136			
Surrogate: 4-Bromofluorobenzene	0.516		mg/kg wet	0.5000		103	54.2-145			

Matrix Spike (K605010-MS1)

Source: K162101-07

Prepared: 05/16/2016 Analyzed: 05/17/2016 00:18

1,1,1-Trichloroethane	0.952	0.027	mg/kg dry	0.7952	ND	120	55.3-131			
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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605010 - EPA 3550B

Matrix Spike (K605010-MS1)	Source: K162101-07			Prepared: 05/16/2016 Analyzed: 05/17/2016 00:18						
1,1,2,2-Tetrachloroethane	0.874	0.027	mg/kg dry	0.7952	ND	110	29.5-139			
1,1,2-Trichloroethane	0.934	0.027	mg/kg dry	0.7952	ND	118	56.2-134			
1,1-Dichloroethane	0.946	0.027	mg/kg dry	0.7952	ND	119	53.1-134			
1,1-Dichloroethene	0.916	0.027	mg/kg dry	0.7952	ND	115	20.5-183			
1,2,3-Trichlorobenzene	0.771	0.027	mg/kg dry	0.7952	ND	96.9	52-117			
1,2,4-Trichlorobenzene	0.797	0.027	mg/kg dry	0.7952	ND	100	58.7-116			
1,2,4-Trimethylbenzene	0.935	0.027	mg/kg dry	0.7952	ND	118	66.1-129			
1,2-Dichlorobenzene	0.849	0.027	mg/kg dry	0.7952	ND	107	71.9-113			
1,2-Dichloroethane	0.953	0.027	mg/kg dry	0.7952	ND	120	56.5-128			
1,3,5-Trimethylbenzene	0.964	0.027	mg/kg dry	0.7952	ND	121	65.4-133			
1,3-Dichlorobenzene	0.898	0.027	mg/kg dry	0.7952	ND	113	62.7-125			
1,4-Dichlorobenzene	0.881	0.027	mg/kg dry	0.7952	ND	111	61.9-122			
2-Chlorotoluene	0.924	0.027	mg/kg dry	0.7952	ND	116	67.4-133			
4-Chlorotoluene	0.911	0.027	mg/kg dry	0.7952	ND	115	63.3-132			
Benzene	0.959	0.027	mg/kg dry	0.7952	ND	121	55.4-126			
Carbon tetrachloride	0.938	0.027	mg/kg dry	0.7952	ND	118	44.2-136			
Chlorobenzene	0.901	0.027	mg/kg dry	0.7952	ND	113	69.8-113			
Chloroform	0.951	0.027	mg/kg dry	0.7952	ND	120	60.6-127			
Chloromethane	0.659	0.053	mg/kg dry	0.7952	ND	82.8	13.4-199			
cis-1,2-Dichloroethene	0.994	0.027	mg/kg dry	0.7952	ND	125	27.4-176			
Ethylbenzene	0.941	0.027	mg/kg dry	0.7952	ND	118	71.8-116			M
Isopropylbenzene	0.909	0.027	mg/kg dry	0.7952	ND	114	74.2-123			
m,p-Xylene	1.82	0.053	mg/kg dry	1.590	ND	114	71.1-111			M
Methylene chloride	0.857	0.11	mg/kg dry	0.7952	ND	108	67.2-127			
Naphthalene	0.788	0.027	mg/kg dry	0.7952	ND	99.1	51.2-119			
n-Butyl Benzene	0.931	0.027	mg/kg dry	0.7952	ND	117	70.8-124			
n-Propyl Benzene	0.940	0.027	mg/kg dry	0.7952	ND	118	64.2-140			
o-Xylene	0.906	0.027	mg/kg dry	0.7952	ND	114	68.4-113			M
p-Isopropyltoluene	0.939	0.027	mg/kg dry	0.7952	ND	118	69.8-128			
sec-Butyl Benzene	0.959	0.027	mg/kg dry	0.7952	ND	121	68.2-129			
Styrene	0.877	0.027	mg/kg dry	0.7952	ND	110	70.5-119			
tert-Butylbenzene	0.944	0.027	mg/kg dry	0.7952	ND	119	68.3-131			
Tetrachloroethene	0.871	0.027	mg/kg dry	0.7952	ND	110	35.4-165			
Toluene	0.940	0.027	mg/kg dry	0.7952	ND	118	59.9-117			M
trans-1,2-Dichloroethene	0.929	0.027	mg/kg dry	0.7952	ND	117	34.4-160			
Trichloroethene	0.898	0.027	mg/kg dry	0.7952	ND	113	27.7-173			
Vinyl chloride	0.696	0.027	mg/kg dry	0.7952	ND	87.5	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.901</i>		<i>mg/kg dry</i>	<i>0.7952</i>		<i>113</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.915</i>		<i>mg/kg dry</i>	<i>0.7952</i>		<i>115</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.870</i>		<i>mg/kg dry</i>	<i>0.7952</i>		<i>109</i>	<i>54.2-145</i>			

Matrix Spike Dup (K605010-MSD1)	Source: K162101-07			Prepared: 05/16/2016 Analyzed: 05/17/2016 00:43						
1,1,1-Trichloroethane	1.08	0.032	mg/kg dry	0.9626	ND	112	55.3-131	6.26	20	
1,1,2,2-Tetrachloroethane	0.966	0.032	mg/kg dry	0.9626	ND	100	29.5-139	9.11	20	



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605010 - EPA 3550B

Matrix Spike Dup (K605010-MSD1)	Source: K162101-07			Prepared: 05/16/2016 Analyzed: 05/17/2016 00:43						
1,1,2-Trichloroethane	1.04	0.032	mg/kg dry	0.9626	ND	108	56.2-134	8.26	20	
1,1-Dichloroethane	1.09	0.032	mg/kg dry	0.9626	ND	113	53.1-134	4.85	20	
1,1-Dichloroethene	1.09	0.032	mg/kg dry	0.9626	ND	113	20.5-183	2.18	20	
1,2,3-Trichlorobenzene	0.910	0.032	mg/kg dry	0.9626	ND	94.5	52-117	2.49	20	
1,2,4-Trichlorobenzene	0.958	0.032	mg/kg dry	0.9626	ND	99.5	58.7-116	0.781	20	
1,2,4-Trimethylbenzene	1.09	0.032	mg/kg dry	0.9626	ND	113	66.1-129	3.94	20	
1,2-Dichlorobenzene	0.992	0.032	mg/kg dry	0.9626	ND	103	71.9-113	3.49	20	
1,2-Dichloroethane	1.05	0.032	mg/kg dry	0.9626	ND	109	56.5-128	9.82	20	
1,3,5-Trimethylbenzene	1.10	0.032	mg/kg dry	0.9626	ND	114	65.4-133	5.73	20	
1,3-Dichlorobenzene	1.03	0.032	mg/kg dry	0.9626	ND	107	62.7-125	5.47	20	
1,4-Dichlorobenzene	1.03	0.032	mg/kg dry	0.9626	ND	107	61.9-122	3.79	20	
2-Chlorotoluene	1.06	0.032	mg/kg dry	0.9626	ND	110	67.4-133	5.56	20	
4-Chlorotoluene	1.01	0.032	mg/kg dry	0.9626	ND	105	63.3-132	8.36	20	
Benzene	1.09	0.032	mg/kg dry	0.9626	ND	113	55.4-126	6.12	20	
Carbon tetrachloride	1.08	0.032	mg/kg dry	0.9626	ND	112	44.2-136	5.35	20	
Chlorobenzene	1.02	0.032	mg/kg dry	0.9626	ND	106	69.8-113	6.88	20	
Chloroform	1.08	0.032	mg/kg dry	0.9626	ND	112	60.6-127	6.37	20	
Chloromethane	0.837	0.064	mg/kg dry	0.9626	ND	87.0	13.4-199	4.89	20	
cis-1,2-Dichloroethene	1.08	0.032	mg/kg dry	0.9626	ND	112	27.4-176	11.1	20	
Ethylbenzene	1.08	0.032	mg/kg dry	0.9626	ND	112	71.8-116	5.17	20	
Isopropylbenzene	1.05	0.032	mg/kg dry	0.9626	ND	109	74.2-123	4.98	20	
m,p-Xylene	2.10	0.064	mg/kg dry	1.925	ND	109	71.1-111	4.45	20	
Methylene chloride	0.975	0.13	mg/kg dry	0.9626	ND	101	67.2-127	6.15	20	
Naphthalene	0.953	0.032	mg/kg dry	0.9626	ND	99.0	51.2-119	0.0787	20	
n-Butyl Benzene	1.07	0.032	mg/kg dry	0.9626	ND	111	70.8-124	5.34	20	
n-Propyl Benzene	1.09	0.032	mg/kg dry	0.9626	ND	113	64.2-140	4.21	20	
o-Xylene	1.03	0.032	mg/kg dry	0.9626	ND	107	68.4-113	6.01	20	
p-Isopropyltoluene	1.07	0.032	mg/kg dry	0.9626	ND	111	69.8-128	5.83	20	
sec-Butyl Benzene	1.10	0.032	mg/kg dry	0.9626	ND	115	68.2-129	5.13	20	
Styrene	1.00	0.032	mg/kg dry	0.9626	ND	104	70.5-119	5.91	20	
tert-Butylbenzene	1.08	0.032	mg/kg dry	0.9626	ND	113	68.3-131	5.21	20	
Tetrachloroethene	1.03	0.032	mg/kg dry	0.9626	ND	107	35.4-165	2.03	20	
Toluene	1.08	0.032	mg/kg dry	0.9626	ND	112	59.9-117	5.38	20	
trans-1,2-Dichloroethene	1.11	0.032	mg/kg dry	0.9626	ND	115	34.4-160	1.55	20	
Trichloroethene	1.05	0.032	mg/kg dry	0.9626	ND	109	27.7-173	3.20	20	
Vinyl chloride	0.867	0.032	mg/kg dry	0.9626	ND	90.1	17.8-199	2.88	20	
Surrogate: 1-Bromo-2-chloroethane	0.938		mg/kg dry	0.9626		97.4	44.1-130			
Surrogate: Toluene-d8	0.937		mg/kg dry	0.9626		97.4	42-136			
Surrogate: 4-Bromofluorobenzene	0.889		mg/kg dry	0.9626		92.4	54.2-145			



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605012 - EPA 3550B

Blank (K605012-BLK1)

Prepared: 05/16/2016 Analyzed: 05/16/2016 21:54

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.540		mg/kg wet	0.5000		108	44.1-130			
Surrogate: Toluene-d8	0.515		mg/kg wet	0.5000		103	42-136			
Surrogate: 4-Bromofluorobenzene	0.529		mg/kg wet	0.5000		106	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605012 - EPA 3550B

LCS (K605012-BS1)

Prepared: 05/16/2016 Analyzed: 05/17/2016 04:05

1,1,1-Trichloroethane	0.637	0.025	mg/kg wet	0.5000		127	59.6-143			
1,1,2,2-Tetrachloroethane	0.519	0.025	mg/kg wet	0.5000		104	61.1-133			
1,1,2-Trichloroethane	0.573	0.025	mg/kg wet	0.5000		115	72.5-128			
1,1-Dichloroethane	0.614	0.025	mg/kg wet	0.5000		123	65-136			
1,1-Dichloroethene	0.697	0.025	mg/kg wet	0.5000		139	51.4-160			
1,2,3-Trichlorobenzene	0.515	0.025	mg/kg wet	0.5000		103	73.1-122			
1,2,4-Trichlorobenzene	0.532	0.025	mg/kg wet	0.5000		106	80.3-118			
1,2,4-Trimethylbenzene	0.496	0.025	mg/kg wet	0.5000		99.2	57.2-139			
1,2-Dichlorobenzene	0.499	0.025	mg/kg wet	0.5000		99.8	87.7-118			
1,2-Dichloroethane	0.663	0.025	mg/kg wet	0.5000		133	66.5-133			
1,3,5-Trimethylbenzene	0.483	0.025	mg/kg wet	0.5000		96.7	32-159			
1,3-Dichlorobenzene	0.510	0.025	mg/kg wet	0.5000		102	88.8-116			
1,4-Dichlorobenzene	0.510	0.025	mg/kg wet	0.5000		102	83.9-116			
2-Chlorotoluene	0.504	0.025	mg/kg wet	0.5000		101	87.3-130			
4-Chlorotoluene	0.528	0.025	mg/kg wet	0.5000		106	92.4-126			
Benzene	0.571	0.025	mg/kg wet	0.5000		114	67.1-128			
Carbon tetrachloride	0.664	0.025	mg/kg wet	0.5000		133	70.7-126			
Chlorobenzene	0.520	0.025	mg/kg wet	0.5000		104	83.1-114			
Chloroform	0.607	0.025	mg/kg wet	0.5000		121	73-127			
Chloromethane	0.527	0.050	mg/kg wet	0.5000		105	24.9-199			
cis-1,2-Dichloroethene	0.538	0.025	mg/kg wet	0.5000		108	67.7-129			
Ethylbenzene	0.529	0.025	mg/kg wet	0.5000		106	80.6-126			
Isopropylbenzene	0.534	0.025	mg/kg wet	0.5000		107	91.2-121			
m,p-Xylene	1.03	0.050	mg/kg wet	1.000		103	79-124			
Methylene chloride	0.555	0.10	mg/kg wet	0.5000		111	20-162			
Naphthalene	0.478	0.025	mg/kg wet	0.5000		95.6	64.2-125			
n-Butyl Benzene	0.526	0.025	mg/kg wet	0.5000		105	90.2-122			
n-Propyl Benzene	0.487	0.025	mg/kg wet	0.5000		97.4	84-139			
o-Xylene	0.523	0.025	mg/kg wet	0.5000		105	80.1-122			
p-Isopropyltoluene	0.540	0.025	mg/kg wet	0.5000		108	89-129			
sec-Butyl Benzene	0.502	0.025	mg/kg wet	0.5000		100	87.6-126			
Styrene	0.511	0.025	mg/kg wet	0.5000		102	82.8-116			
tert-Butylbenzene	0.516	0.025	mg/kg wet	0.5000		103	83.4-139			
Tetrachloroethene	0.462	0.025	mg/kg wet	0.5000		92.3	61.6-133			
Toluene	0.544	0.025	mg/kg wet	0.5000		109	65.2-134			
trans-1,2-Dichloroethene	0.640	0.025	mg/kg wet	0.5000		128	47.7-151			
Trichloroethene	0.534	0.025	mg/kg wet	0.5000		107	67.3-132			
Vinyl chloride	0.602	0.025	mg/kg wet	0.5000		120	25.9-199			

Surrogate: 1-Bromo-2-chloroethane	0.587		mg/kg wet	0.5000		117	44.1-130			
Surrogate: Toluene-d8	0.530		mg/kg wet	0.5000		106	42-136			
Surrogate: 4-Bromofluorobenzene	0.556		mg/kg wet	0.5000		111	54.2-145			

Matrix Spike (K605012-MS1)

Source: K162102-08

Prepared: 05/16/2016 Analyzed: 05/17/2016 03:12

1,1,1-Trichloroethane	0.910	0.026	mg/kg dry	0.7733	ND	118	55.3-131			
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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605012 - EPA 3550B

Matrix Spike (K605012-MS1)	Source: K162102-08			Prepared: 05/16/2016 Analyzed: 05/17/2016 03:12						
1,1,2,2-Tetrachloroethane	0.741	0.026	mg/kg dry	0.7733	ND	95.8	29.5-139			
1,1,2-Trichloroethane	0.826	0.026	mg/kg dry	0.7733	ND	107	56.2-134			
1,1-Dichloroethane	0.835	0.026	mg/kg dry	0.7733	ND	108	53.1-134			
1,1-Dichloroethene	0.880	0.026	mg/kg dry	0.7733	ND	114	20.5-183			
1,2,3-Trichlorobenzene	0.756	0.026	mg/kg dry	0.7733	ND	97.7	52-117			
1,2,4-Trichlorobenzene	0.789	0.026	mg/kg dry	0.7733	ND	102	58.7-116			
1,2,4-Trimethylbenzene	0.871	0.026	mg/kg dry	0.7733	ND	113	66.1-129			
1,2-Dichlorobenzene	0.752	0.026	mg/kg dry	0.7733	ND	97.2	71.9-113			
1,2-Dichloroethane	0.913	0.026	mg/kg dry	0.7733	ND	118	56.5-128			
1,3,5-Trimethylbenzene	0.831	0.026	mg/kg dry	0.7733	ND	107	65.4-133			
1,3-Dichlorobenzene	0.804	0.026	mg/kg dry	0.7733	ND	104	62.7-125			
1,4-Dichlorobenzene	0.829	0.026	mg/kg dry	0.7733	ND	107	61.9-122			
2-Chlorotoluene	0.864	0.026	mg/kg dry	0.7733	ND	112	67.4-133			
4-Chlorotoluene	0.892	0.026	mg/kg dry	0.7733	ND	115	63.3-132			
Benzene	0.785	0.026	mg/kg dry	0.7733	ND	102	55.4-126			
Carbon tetrachloride	1.03	0.026	mg/kg dry	0.7733	0.103	120	44.2-136			
Chlorobenzene	0.798	0.026	mg/kg dry	0.7733	ND	103	69.8-113			
Chloroform	0.890	0.026	mg/kg dry	0.7733	0.0158	113	60.6-127			
Chloromethane	0.899	0.053	mg/kg dry	0.7733	ND	116	13.4-199			
cis-1,2-Dichloroethene	0.756	0.026	mg/kg dry	0.7733	ND	97.7	27.4-176			
Ethylbenzene	0.797	0.026	mg/kg dry	0.7733	ND	103	71.8-116			
Isopropylbenzene	0.807	0.026	mg/kg dry	0.7733	ND	104	74.2-123			
m,p-Xylene	1.56	0.053	mg/kg dry	1.547	ND	101	71.1-111			
Methylene chloride	0.738	0.11	mg/kg dry	0.7733	ND	95.4	67.2-127			
Naphthalene	0.709	0.026	mg/kg dry	0.7733	ND	91.6	51.2-119			
n-Butyl Benzene	0.841	0.026	mg/kg dry	0.7733	ND	109	70.8-124			
n-Propyl Benzene	0.844	0.026	mg/kg dry	0.7733	ND	109	64.2-140			
o-Xylene	0.747	0.026	mg/kg dry	0.7733	ND	96.7	68.4-113			
p-Isopropyltoluene	0.858	0.026	mg/kg dry	0.7733	ND	111	69.8-128			
sec-Butyl Benzene	0.843	0.026	mg/kg dry	0.7733	ND	109	68.2-129			
Styrene	0.771	0.026	mg/kg dry	0.7733	ND	99.7	70.5-119			
tert-Butylbenzene	0.875	0.026	mg/kg dry	0.7733	ND	113	68.3-131			
Tetrachloroethene	0.703	0.026	mg/kg dry	0.7733	ND	90.9	35.4-165			
Toluene	0.799	0.026	mg/kg dry	0.7733	ND	103	59.9-117			
trans-1,2-Dichloroethene	0.811	0.026	mg/kg dry	0.7733	ND	105	34.4-160			
Trichloroethene	0.765	0.026	mg/kg dry	0.7733	ND	98.9	27.7-173			
Vinyl chloride	0.667	0.026	mg/kg dry	0.7733	ND	86.2	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.752		mg/kg dry	0.7733		97.2	44.1-130			
Surrogate: Toluene-d8	0.715		mg/kg dry	0.7733		92.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.696		mg/kg dry	0.7733		90.0	54.2-145			

Matrix Spike Dup (K605012-MSD1)	Source: K162102-08			Prepared: 05/16/2016 Analyzed: 05/17/2016 03:39						
1,1,1-Trichloroethane	0.800	0.027	mg/kg dry	0.7824	ND	102	55.3-131	14.0	20	
1,1,2,2-Tetrachloroethane	0.717	0.027	mg/kg dry	0.7824	ND	91.6	29.5-139	4.44	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605012 - EPA 3550B

Matrix Spike Dup (K605012-MSD1)

Source: K162102-08

Prepared: 05/16/2016 Analyzed: 05/17/2016 03:39

1,1,2-Trichloroethane	0.707	0.027	mg/kg dry	0.7824	ND	90.4	56.2-134	16.6	20	
1,1-Dichloroethane	0.757	0.027	mg/kg dry	0.7824	ND	96.7	53.1-134	11.1	20	
1,1-Dichloroethene	0.814	0.027	mg/kg dry	0.7824	ND	104	20.5-183	9.01	20	
1,2,3-Trichlorobenzene	0.679	0.027	mg/kg dry	0.7824	ND	86.8	52-117	11.9	20	
1,2,4-Trichlorobenzene	0.706	0.027	mg/kg dry	0.7824	ND	90.3	58.7-116	12.3	20	
1,2,4-Trimethylbenzene	0.731	0.027	mg/kg dry	0.7824	ND	93.5	66.1-129	18.6	20	
1,2-Dichlorobenzene	0.643	0.027	mg/kg dry	0.7824	ND	82.2	71.9-113	16.7	20	
1,2-Dichloroethane	0.822	0.027	mg/kg dry	0.7824	ND	105	56.5-128	11.6	20	
1,3,5-Trimethylbenzene	0.704	0.027	mg/kg dry	0.7824	ND	90.0	65.4-133	17.6	20	
1,3-Dichlorobenzene	0.705	0.027	mg/kg dry	0.7824	ND	90.1	62.7-125	14.3	20	
1,4-Dichlorobenzene	0.705	0.027	mg/kg dry	0.7824	ND	90.1	61.9-122	17.4	20	
2-Chlorotoluene	0.758	0.027	mg/kg dry	0.7824	ND	96.9	67.4-133	14.3	20	
4-Chlorotoluene	0.773	0.027	mg/kg dry	0.7824	ND	98.8	63.3-132	15.4	20	
Benzene	0.701	0.027	mg/kg dry	0.7824	ND	89.6	55.4-126	12.5	20	
Carbon tetrachloride	1.02	0.027	mg/kg dry	0.7824	0.103	117	44.2-136	2.43	20	
Chlorobenzene	0.691	0.027	mg/kg dry	0.7824	ND	88.3	69.8-113	15.5	20	
Chloroform	0.806	0.027	mg/kg dry	0.7824	0.0158	101	60.6-127	11.3	20	
Chloromethane	0.881	0.053	mg/kg dry	0.7824	ND	113	13.4-199	3.14	20	
cis-1,2-Dichloroethene	0.681	0.027	mg/kg dry	0.7824	ND	87.1	27.4-176	11.6	20	
Ethylbenzene	0.731	0.027	mg/kg dry	0.7824	ND	93.4	71.8-116	9.86	20	
Isopropylbenzene	0.716	0.027	mg/kg dry	0.7824	ND	91.5	74.2-123	13.1	20	
m,p-Xylene	1.42	0.053	mg/kg dry	1.565	ND	90.7	71.1-111	10.7	20	
Methylene chloride	0.652	0.11	mg/kg dry	0.7824	ND	83.3	67.2-127	13.6	20	
Naphthalene	0.619	0.027	mg/kg dry	0.7824	ND	79.2	51.2-119	14.6	20	
n-Butyl Benzene	0.738	0.027	mg/kg dry	0.7824	ND	94.3	70.8-124	14.2	20	
n-Propyl Benzene	0.726	0.027	mg/kg dry	0.7824	ND	92.8	64.2-140	16.2	20	
o-Xylene	0.694	0.027	mg/kg dry	0.7824	ND	88.7	68.4-113	8.61	20	
p-Isopropyltoluene	0.783	0.027	mg/kg dry	0.7824	ND	100	69.8-128	10.3	20	
sec-Butyl Benzene	0.726	0.027	mg/kg dry	0.7824	ND	92.8	68.2-129	16.1	20	
Styrene	0.723	0.027	mg/kg dry	0.7824	ND	92.4	70.5-119	7.65	20	
tert-Butylbenzene	0.805	0.027	mg/kg dry	0.7824	ND	103	68.3-131	9.57	20	
Tetrachloroethene	0.671	0.027	mg/kg dry	0.7824	ND	85.8	35.4-165	5.80	20	
Toluene	0.699	0.027	mg/kg dry	0.7824	ND	89.4	59.9-117	14.5	20	
trans-1,2-Dichloroethene	0.750	0.027	mg/kg dry	0.7824	ND	95.9	34.4-160	9.00	20	
Trichloroethene	0.689	0.027	mg/kg dry	0.7824	ND	88.1	27.7-173	11.6	20	
Vinyl chloride	0.843	0.027	mg/kg dry	0.7824	ND	108	17.8-199	22.2	20	X
Surrogate: 1-Bromo-2-chloroethane	0.720		mg/kg dry	0.7824		92.0	44.1-130			
Surrogate: Toluene-d8	0.704		mg/kg dry	0.7824		90.0	42-136			
Surrogate: 4-Bromofluorobenzene	0.678		mg/kg dry	0.7824		86.7	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605014 - EPA 3550B

Blank (K605014-BLK1)

Prepared: 05/17/2016 Analyzed: 05/17/2016 17:42

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.498		mg/kg wet	0.5000		99.6	44.1-130			
Surrogate: Toluene-d8	0.532		mg/kg wet	0.5000		106	42-136			
Surrogate: 4-Bromofluorobenzene	0.511		mg/kg wet	0.5000		102	54.2-145			



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605014 - EPA 3550B

LCS (K605014-BS1)

Prepared: 05/17/2016 Analyzed: 05/18/2016 00:55

1,1,1-Trichloroethane	0.539	0.025	mg/kg wet	0.5000		108	59.6-143			
1,1,2,2-Tetrachloroethane	0.448	0.025	mg/kg wet	0.5000		89.6	61.1-133			
1,1,2-Trichloroethane	0.561	0.025	mg/kg wet	0.5000		112	72.5-128			
1,1-Dichloroethane	0.571	0.025	mg/kg wet	0.5000		114	65-136			
1,1-Dichloroethene	0.641	0.025	mg/kg wet	0.5000		128	51.4-160			
1,2,3-Trichlorobenzene	0.457	0.025	mg/kg wet	0.5000		91.3	73.1-122			
1,2,4-Trichlorobenzene	0.455	0.025	mg/kg wet	0.5000		91.0	80.3-118			
1,2,4-Trimethylbenzene	0.506	0.025	mg/kg wet	0.5000		101	57.2-139			
1,2-Dichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	87.7-118			
1,2-Dichloroethane	0.556	0.025	mg/kg wet	0.5000		111	66.5-133			
1,3,5-Trimethylbenzene	0.509	0.025	mg/kg wet	0.5000		102	32-159			
1,3-Dichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	88.8-116			
1,4-Dichlorobenzene	0.517	0.025	mg/kg wet	0.5000		103	83.9-116			
2-Chlorotoluene	0.493	0.025	mg/kg wet	0.5000		98.5	87.3-130			
4-Chlorotoluene	0.484	0.025	mg/kg wet	0.5000		96.9	92.4-126			
Benzene	0.544	0.025	mg/kg wet	0.5000		109	67.1-128			
Carbon tetrachloride	0.528	0.025	mg/kg wet	0.5000		106	70.7-126			
Chlorobenzene	0.534	0.025	mg/kg wet	0.5000		107	83.1-114			
Chloroform	0.539	0.025	mg/kg wet	0.5000		108	73-127			
Chloromethane	0.425	0.050	mg/kg wet	0.5000		85.0	24.9-199			
cis-1,2-Dichloroethene	0.526	0.025	mg/kg wet	0.5000		105	67.7-129			
Ethylbenzene	0.496	0.025	mg/kg wet	0.5000		99.2	80.6-126			
Isopropylbenzene	0.540	0.025	mg/kg wet	0.5000		108	91.2-121			
m,p-Xylene	1.05	0.050	mg/kg wet	1.000		105	79-124			
Methylene chloride	0.525	0.10	mg/kg wet	0.5000		105	20-162			
Naphthalene	0.480	0.025	mg/kg wet	0.5000		96.0	64.2-125			
n-Butyl Benzene	0.501	0.025	mg/kg wet	0.5000		100	90.2-122			
n-Propyl Benzene	0.506	0.025	mg/kg wet	0.5000		101	84-139			
o-Xylene	0.530	0.025	mg/kg wet	0.5000		106	80.1-122			
p-Isopropyltoluene	0.511	0.025	mg/kg wet	0.5000		102	89-129			
sec-Butyl Benzene	0.510	0.025	mg/kg wet	0.5000		102	87.6-126			
Styrene	0.530	0.025	mg/kg wet	0.5000		106	82.8-116			
tert-Butylbenzene	0.522	0.025	mg/kg wet	0.5000		104	83.4-139			
Tetrachloroethene	0.520	0.025	mg/kg wet	0.5000		104	61.6-133			
Toluene	0.562	0.025	mg/kg wet	0.5000		112	65.2-134			
trans-1,2-Dichloroethene	0.596	0.025	mg/kg wet	0.5000		119	47.7-151			
Trichloroethene	0.543	0.025	mg/kg wet	0.5000		109	67.3-132			
Vinyl chloride	0.523	0.025	mg/kg wet	0.5000		105	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.517		mg/kg wet	0.5000		103	44.1-130			
Surrogate: Toluene-d8	0.569		mg/kg wet	0.5000		114	42-136			
Surrogate: 4-Bromofluorobenzene	0.505		mg/kg wet	0.5000		101	54.2-145			

Matrix Spike (K605014-MS1)

Source: K162103-05

Prepared: 05/17/2016 Analyzed: 05/18/2016 00:04

1,1,1-Trichloroethane	0.894	0.032	mg/kg dry	0.8943	ND	99.9	55.3-131			
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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605014 - EPA 3550B

Matrix Spike (K605014-MS1)	Source: K162103-05			Prepared: 05/17/2016 Analyzed: 05/18/2016 00:04						
1,1,2,2-Tetrachloroethane	0.813	0.032	mg/kg dry	0.8943	ND	90.9	29.5-139			
1,1,2-Trichloroethane	0.911	0.032	mg/kg dry	0.8943	ND	102	56.2-134			
1,1-Dichloroethane	0.915	0.032	mg/kg dry	0.8943	ND	102	53.1-134			
1,1-Dichloroethene	0.897	0.032	mg/kg dry	0.8943	ND	100	20.5-183			
1,2,3-Trichlorobenzene	0.671	0.032	mg/kg dry	0.8943	ND	75.0	52-117			
1,2,4-Trichlorobenzene	0.725	0.032	mg/kg dry	0.8943	ND	81.1	58.7-116			
1,2,4-Trimethylbenzene	0.929	0.032	mg/kg dry	0.8943	ND	104	66.1-129			
1,2-Dichlorobenzene	0.811	0.032	mg/kg dry	0.8943	ND	90.6	71.9-113			
1,2-Dichloroethane	0.937	0.032	mg/kg dry	0.8943	ND	105	56.5-128			
1,3,5-Trimethylbenzene	0.965	0.032	mg/kg dry	0.8943	ND	108	65.4-133			
1,3-Dichlorobenzene	0.870	0.032	mg/kg dry	0.8943	ND	97.3	62.7-125			
1,4-Dichlorobenzene	0.868	0.032	mg/kg dry	0.8943	ND	97.1	61.9-122			
2-Chlorotoluene	0.907	0.032	mg/kg dry	0.8943	ND	101	67.4-133			
4-Chlorotoluene	0.890	0.032	mg/kg dry	0.8943	ND	99.5	63.3-132			
Benzene	0.939	0.032	mg/kg dry	0.8943	ND	105	55.4-126			
Carbon tetrachloride	0.893	0.032	mg/kg dry	0.8943	ND	99.8	44.2-136			
Chlorobenzene	0.893	0.032	mg/kg dry	0.8943	ND	99.8	69.8-113			
Chloroform	0.937	0.032	mg/kg dry	0.8943	ND	105	60.6-127			
Chloromethane	0.593	0.064	mg/kg dry	0.8943	ND	66.3	13.4-199			
cis-1,2-Dichloroethene	0.903	0.032	mg/kg dry	0.8943	ND	101	27.4-176			
Ethylbenzene	0.852	0.032	mg/kg dry	0.8943	ND	95.3	71.8-116			
Isopropylbenzene	0.895	0.032	mg/kg dry	0.8943	ND	100	74.2-123			
m,p-Xylene	1.79	0.064	mg/kg dry	1.789	ND	99.9	71.1-111			
Methylene chloride	0.829	0.13	mg/kg dry	0.8943	ND	92.7	67.2-127			
Naphthalene	0.732	0.032	mg/kg dry	0.8943	ND	81.9	51.2-119			
n-Butyl Benzene	0.905	0.032	mg/kg dry	0.8943	ND	101	70.8-124			
n-Propyl Benzene	0.935	0.032	mg/kg dry	0.8943	ND	104	64.2-140			
o-Xylene	0.898	0.032	mg/kg dry	0.8943	ND	100	68.4-113			
p-Isopropyltoluene	0.906	0.032	mg/kg dry	0.8943	ND	101	69.8-128			
sec-Butyl Benzene	0.948	0.032	mg/kg dry	0.8943	ND	106	68.2-129			
Styrene	0.885	0.032	mg/kg dry	0.8943	ND	99.0	70.5-119			
tert-Butylbenzene	0.947	0.032	mg/kg dry	0.8943	ND	106	68.3-131			
Tetrachloroethene	0.825	0.032	mg/kg dry	0.8943	ND	92.2	35.4-165			
Toluene	0.889	0.032	mg/kg dry	0.8943	ND	99.4	59.9-117			
trans-1,2-Dichloroethene	0.904	0.032	mg/kg dry	0.8943	ND	101	34.4-160			
Trichloroethene	0.863	0.032	mg/kg dry	0.8943	ND	96.5	27.7-173			
Vinyl chloride	0.732	0.032	mg/kg dry	0.8943	ND	81.9	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.860</i>		<i>mg/kg dry</i>	<i>0.8943</i>		<i>96.1</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.882</i>		<i>mg/kg dry</i>	<i>0.8943</i>		<i>98.6</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.881</i>		<i>mg/kg dry</i>	<i>0.8943</i>		<i>98.5</i>	<i>54.2-145</i>			

Matrix Spike Dup (K605014-MSD1)	Source: K162103-05			Prepared: 05/17/2016 Analyzed: 05/18/2016 00:29						
1,1,1-Trichloroethane	0.712	0.025	mg/kg dry	0.7053	ND	101	55.3-131	0.952	20	
1,1,2,2-Tetrachloroethane	0.702	0.025	mg/kg dry	0.7053	ND	99.5	29.5-139	9.06	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605014 - EPA 3550B

Matrix Spike Dup (K605014-MSD1)	Source: K162103-05			Prepared: 05/17/2016 Analyzed: 05/18/2016 00:29						
1,1,2-Trichloroethane	0.726	0.025	mg/kg dry	0.7053	ND	103	56.2-134	1.11	20	
1,1-Dichloroethane	0.707	0.025	mg/kg dry	0.7053	ND	100	53.1-134	2.09	20	
1,1-Dichloroethene	0.706	0.025	mg/kg dry	0.7053	ND	100	20.5-183	0.224	20	
1,2,3-Trichlorobenzene	0.607	0.025	mg/kg dry	0.7053	ND	86.0	52-117	13.7	20	
1,2,4-Trichlorobenzene	0.634	0.025	mg/kg dry	0.7053	ND	89.9	58.7-116	10.4	20	
1,2,4-Trimethylbenzene	0.769	0.025	mg/kg dry	0.7053	ND	109	66.1-129	4.85	20	
1,2-Dichlorobenzene	0.704	0.025	mg/kg dry	0.7053	ND	99.8	71.9-113	9.66	20	
1,2-Dichloroethane	0.716	0.025	mg/kg dry	0.7053	ND	102	56.5-128	3.06	20	
1,3,5-Trimethylbenzene	0.792	0.025	mg/kg dry	0.7053	ND	112	65.4-133	3.93	20	
1,3-Dichlorobenzene	0.722	0.025	mg/kg dry	0.7053	ND	102	62.7-125	5.05	20	
1,4-Dichlorobenzene	0.745	0.025	mg/kg dry	0.7053	ND	106	61.9-122	8.38	20	
2-Chlorotoluene	0.762	0.025	mg/kg dry	0.7053	ND	108	67.4-133	6.40	20	
4-Chlorotoluene	0.748	0.025	mg/kg dry	0.7053	ND	106	63.3-132	6.29	20	
Benzene	0.723	0.025	mg/kg dry	0.7053	ND	102	55.4-126	2.38	20	
Carbon tetrachloride	0.698	0.025	mg/kg dry	0.7053	ND	99.0	44.2-136	0.835	20	
Chlorobenzene	0.721	0.025	mg/kg dry	0.7053	ND	102	69.8-113	2.41	20	
Chloroform	0.722	0.025	mg/kg dry	0.7053	0.00583	102	60.6-127	3.11	20	
Chloromethane	0.451	0.051	mg/kg dry	0.7053	ND	64.0	13.4-199	3.52	20	
cis-1,2-Dichloroethene	0.693	0.025	mg/kg dry	0.7053	ND	98.3	27.4-176	2.74	20	
Ethylbenzene	0.786	0.025	mg/kg dry	0.7053	ND	111	71.8-116	15.6	20	
Isopropylbenzene	0.755	0.025	mg/kg dry	0.7053	ND	107	74.2-123	6.75	20	
m,p-Xylene	1.47	0.051	mg/kg dry	1.411	ND	104	71.1-111	4.32	20	
Methylene chloride	0.655	0.10	mg/kg dry	0.7053	ND	92.8	67.2-127	0.142	20	
Naphthalene	0.648	0.025	mg/kg dry	0.7053	ND	91.8	51.2-119	11.5	20	
n-Butyl Benzene	0.760	0.025	mg/kg dry	0.7053	ND	108	70.8-124	6.27	20	
n-Propyl Benzene	0.788	0.025	mg/kg dry	0.7053	ND	112	64.2-140	6.74	20	
o-Xylene	0.732	0.025	mg/kg dry	0.7053	ND	104	68.4-113	3.27	20	
p-Isopropyltoluene	0.784	0.025	mg/kg dry	0.7053	ND	111	69.8-128	9.26	20	
sec-Butyl Benzene	0.779	0.025	mg/kg dry	0.7053	ND	110	68.2-129	4.09	20	
Styrene	0.712	0.025	mg/kg dry	0.7053	ND	101	70.5-119	1.90	20	
tert-Butylbenzene	0.779	0.025	mg/kg dry	0.7053	ND	110	68.3-131	4.18	20	
Tetrachloroethene	0.688	0.025	mg/kg dry	0.7053	ND	97.6	35.4-165	5.71	20	
Toluene	0.718	0.025	mg/kg dry	0.7053	ND	102	59.9-117	2.40	20	
trans-1,2-Dichloroethene	0.717	0.025	mg/kg dry	0.7053	ND	102	34.4-160	0.562	20	
Trichloroethene	0.691	0.025	mg/kg dry	0.7053	ND	97.9	27.7-173	1.46	20	
Vinyl chloride	0.513	0.025	mg/kg dry	0.7053	ND	72.8	17.8-199	11.7	20	
Surrogate: 1-Bromo-2-chloroethane	0.687		mg/kg dry	0.7053		97.4	44.1-130			
Surrogate: Toluene-d8	0.708		mg/kg dry	0.7053		100	42-136			
Surrogate: 4-Bromofluorobenzene	0.694		mg/kg dry	0.7053		98.3	54.2-145			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605016 - EPA 3550B

Blank (K605016-BLK1)

Prepared: 05/19/2016 Analyzed: 05/19/2016 10:05

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.476		mg/kg wet	0.5000		95.3	44.1-130			
Surrogate: Toluene-d8	0.463		mg/kg wet	0.5000		92.6	42-136			
Surrogate: 4-Bromofluorobenzene	0.514		mg/kg wet	0.5000		103	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605016 - EPA 3550B

LCS (K605016-BS1)

Prepared: 05/19/2016 Analyzed: 05/19/2016 13:04

1,1,1-Trichloroethane	0.506	0.025	mg/kg wet	0.5000		101	59.6-143			
1,1,2,2-Tetrachloroethane	0.520	0.025	mg/kg wet	0.5000		104	61.1-133			
1,1,2-Trichloroethane	0.502	0.025	mg/kg wet	0.5000		100	72.5-128			
1,1-Dichloroethane	0.498	0.025	mg/kg wet	0.5000		99.6	65-136			
1,1-Dichloroethene	0.549	0.025	mg/kg wet	0.5000		110	51.4-160			
1,2,3-Trichlorobenzene	0.551	0.025	mg/kg wet	0.5000		110	73.1-122			
1,2,4-Trichlorobenzene	0.546	0.025	mg/kg wet	0.5000		109	80.3-118			
1,2,4-Trimethylbenzene	0.494	0.025	mg/kg wet	0.5000		98.9	57.2-139			
1,2-Dichlorobenzene	0.526	0.025	mg/kg wet	0.5000		105	87.7-118			
1,2-Dichloroethane	0.450	0.025	mg/kg wet	0.5000		90.0	66.5-133			
1,3,5-Trimethylbenzene	0.478	0.025	mg/kg wet	0.5000		95.7	32-159			
1,3-Dichlorobenzene	0.496	0.025	mg/kg wet	0.5000		99.2	88.8-116			
1,4-Dichlorobenzene	0.515	0.025	mg/kg wet	0.5000		103	83.9-116			
2-Chlorotoluene	0.462	0.025	mg/kg wet	0.5000		92.4	87.3-130			
4-Chlorotoluene	0.496	0.025	mg/kg wet	0.5000		99.2	92.4-126			
Benzene	0.466	0.025	mg/kg wet	0.5000		93.1	67.1-128			
Carbon tetrachloride	0.518	0.025	mg/kg wet	0.5000		104	70.7-126			
Chlorobenzene	0.503	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.465	0.025	mg/kg wet	0.5000		93.0	73-127			
Chloromethane	0.437	0.050	mg/kg wet	0.5000		87.5	24.9-199			
cis-1,2-Dichloroethene	0.476	0.025	mg/kg wet	0.5000		95.2	67.7-129			
Ethylbenzene	0.493	0.025	mg/kg wet	0.5000		98.5	80.6-126			
Isopropylbenzene	0.504	0.025	mg/kg wet	0.5000		101	91.2-121			
m,p-Xylene	0.986	0.050	mg/kg wet	1.000		98.6	79-124			
Methylene chloride	0.463	0.10	mg/kg wet	0.5000		92.6	20-162			
Naphthalene	0.521	0.025	mg/kg wet	0.5000		104	64.2-125			
n-Butyl Benzene	0.493	0.025	mg/kg wet	0.5000		98.6	90.2-122			
n-Propyl Benzene	0.492	0.025	mg/kg wet	0.5000		98.4	84-139			
o-Xylene	0.488	0.025	mg/kg wet	0.5000		97.5	80.1-122			
p-Isopropyltoluene	0.513	0.025	mg/kg wet	0.5000		103	89-129			
sec-Butyl Benzene	0.480	0.025	mg/kg wet	0.5000		96.0	87.6-126			
Styrene	0.501	0.025	mg/kg wet	0.5000		100	82.8-116			
tert-Butylbenzene	0.484	0.025	mg/kg wet	0.5000		96.8	83.4-139			
Tetrachloroethene	0.534	0.025	mg/kg wet	0.5000		107	61.6-133			
Toluene	0.466	0.025	mg/kg wet	0.5000		93.2	65.2-134			
trans-1,2-Dichloroethene	0.523	0.025	mg/kg wet	0.5000		105	47.7-151			
Trichloroethene	0.509	0.025	mg/kg wet	0.5000		102	67.3-132			
Vinyl chloride	0.505	0.025	mg/kg wet	0.5000		101	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.484		mg/kg wet	0.5000		96.9	44.1-130			
Surrogate: Toluene-d8	0.474		mg/kg wet	0.5000		94.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.534		mg/kg wet	0.5000		107	54.2-145			

Matrix Spike (K605016-MS1)

Source: K162104-09

Prepared: 05/19/2016 Analyzed: 05/19/2016 13:20

1,1,1-Trichloroethane	0.655	0.026	mg/kg dry	0.6793	ND	96.5	55.3-131			
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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605016 - EPA 3550B

Matrix Spike (K605016-MS1)

Source: K162104-09

Prepared: 05/19/2016 Analyzed: 05/19/2016 13:20

1,1,2,2-Tetrachloroethane	0.717	0.026	mg/kg dry	0.6793	ND	106	29.5-139			
1,1,2-Trichloroethane	0.675	0.026	mg/kg dry	0.6793	ND	99.4	56.2-134			
1,1-Dichloroethane	0.697	0.026	mg/kg dry	0.6793	ND	103	53.1-134			
1,1-Dichloroethene	0.644	0.026	mg/kg dry	0.6793	ND	94.8	20.5-183			
1,2,3-Trichlorobenzene	0.663	0.026	mg/kg dry	0.6793	ND	97.7	52-117			
1,2,4-Trichlorobenzene	0.719	0.026	mg/kg dry	0.6793	ND	106	58.7-116			
1,2,4-Trimethylbenzene	0.700	0.026	mg/kg dry	0.6793	ND	103	66.1-129			
1,2-Dichlorobenzene	0.702	0.026	mg/kg dry	0.6793	ND	103	71.9-113			
1,2-Dichloroethane	0.667	0.026	mg/kg dry	0.6793	ND	98.2	56.5-128			
1,3,5-Trimethylbenzene	0.743	0.026	mg/kg dry	0.6793	ND	109	65.4-133			
1,3-Dichlorobenzene	0.736	0.026	mg/kg dry	0.6793	ND	108	62.7-125			
1,4-Dichlorobenzene	0.716	0.026	mg/kg dry	0.6793	ND	105	61.9-122			
2-Chlorotoluene	0.689	0.026	mg/kg dry	0.6793	ND	101	67.4-133			
4-Chlorotoluene	0.748	0.026	mg/kg dry	0.6793	ND	110	63.3-132			
Benzene	0.708	0.026	mg/kg dry	0.6793	ND	104	55.4-126			
Carbon tetrachloride	0.675	0.026	mg/kg dry	0.6793	ND	99.4	44.2-136			
Chlorobenzene	0.699	0.026	mg/kg dry	0.6793	ND	103	69.8-113			
Chloroform	0.673	0.026	mg/kg dry	0.6793	ND	99.0	60.6-127			
Chloromethane	0.660	0.052	mg/kg dry	0.6793	ND	97.1	13.4-199			
cis-1,2-Dichloroethene	0.681	0.026	mg/kg dry	0.6793	ND	100	27.4-176			
Ethylbenzene	0.701	0.026	mg/kg dry	0.6793	ND	103	71.8-116			
Isopropylbenzene	0.685	0.026	mg/kg dry	0.6793	ND	101	74.2-123			
m,p-Xylene	1.42	0.052	mg/kg dry	1.359	ND	105	71.1-111			
Methylene chloride	0.593	0.10	mg/kg dry	0.6793	ND	87.2	67.2-127			
Naphthalene	0.648	0.026	mg/kg dry	0.6793	ND	95.3	51.2-119			
n-Butyl Benzene	0.680	0.026	mg/kg dry	0.6793	ND	100	70.8-124			
n-Propyl Benzene	0.747	0.026	mg/kg dry	0.6793	ND	110	64.2-140			
o-Xylene	0.702	0.026	mg/kg dry	0.6793	ND	103	68.4-113			
p-Isopropyltoluene	0.691	0.026	mg/kg dry	0.6793	ND	102	69.8-128			
sec-Butyl Benzene	0.741	0.026	mg/kg dry	0.6793	ND	109	68.2-129			
Styrene	0.720	0.026	mg/kg dry	0.6793	ND	106	70.5-119			
tert-Butylbenzene	0.726	0.026	mg/kg dry	0.6793	ND	107	68.3-131			
Tetrachloroethene	0.638	0.026	mg/kg dry	0.6793	ND	93.9	35.4-165			
Toluene	0.691	0.026	mg/kg dry	0.6793	ND	102	59.9-117			
trans-1,2-Dichloroethene	0.671	0.026	mg/kg dry	0.6793	ND	98.8	34.4-160			
Trichloroethene	0.669	0.026	mg/kg dry	0.6793	ND	98.4	27.7-173			
Vinyl chloride	0.599	0.026	mg/kg dry	0.6793	ND	88.2	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	0.665		mg/kg dry	0.6793		98.0	44.1-130			
<i>Surrogate: Toluene-d8</i>	0.680		mg/kg dry	0.6793		100	42-136			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.678		mg/kg dry	0.6793		99.9	54.2-145			

Matrix Spike Dup (K605016-MSD1)

Source: K162104-09

Prepared: 05/19/2016 Analyzed: 05/19/2016 13:47

1,1,1-Trichloroethane	0.635	0.024	mg/kg dry	0.6336	ND	100	55.3-131	3.86	20	
1,1,2,2-Tetrachloroethane	0.705	0.024	mg/kg dry	0.6336	ND	111	29.5-139	5.31	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605016 - EPA 3550B

Matrix Spike Dup (K605016-MSD1)

Source: K162104-09

Prepared: 05/19/2016 Analyzed: 05/19/2016 13:47

1,1,2-Trichloroethane	0.733	0.024	mg/kg dry	0.6336	ND	116	56.2-134	15.2	20	
1,1-Dichloroethane	0.662	0.024	mg/kg dry	0.6336	ND	104	53.1-134	1.77	20	
1,1-Dichloroethene	0.612	0.024	mg/kg dry	0.6336	ND	96.5	20.5-183	1.81	20	
1,2,3-Trichlorobenzene	0.678	0.024	mg/kg dry	0.6336	ND	107	52-117	9.14	20	
1,2,4-Trichlorobenzene	0.700	0.024	mg/kg dry	0.6336	ND	111	58.7-116	4.36	20	
1,2,4-Trimethylbenzene	0.694	0.024	mg/kg dry	0.6336	ND	110	66.1-129	6.11	20	
1,2-Dichlorobenzene	0.680	0.024	mg/kg dry	0.6336	ND	107	71.9-113	3.75	20	
1,2-Dichloroethane	0.667	0.024	mg/kg dry	0.6336	ND	105	56.5-128	6.90	20	
1,3,5-Trimethylbenzene	0.666	0.024	mg/kg dry	0.6336	ND	105	65.4-133	3.99	20	
1,3-Dichlorobenzene	0.695	0.024	mg/kg dry	0.6336	ND	110	62.7-125	1.28	20	
1,4-Dichlorobenzene	0.700	0.024	mg/kg dry	0.6336	ND	110	61.9-122	4.64	20	
2-Chlorotoluene	0.651	0.024	mg/kg dry	0.6336	ND	103	67.4-133	1.27	20	
4-Chlorotoluene	0.651	0.024	mg/kg dry	0.6336	ND	103	63.3-132	7.02	20	
Benzene	0.724	0.024	mg/kg dry	0.6336	ND	114	55.4-126	9.18	20	
Carbon tetrachloride	0.650	0.024	mg/kg dry	0.6336	ND	103	44.2-136	3.28	20	
Chlorobenzene	0.697	0.024	mg/kg dry	0.6336	ND	110	69.8-113	6.61	20	
Chloroform	0.668	0.024	mg/kg dry	0.6336	ND	105	60.6-127	6.21	20	
Chloromethane	0.641	0.049	mg/kg dry	0.6336	ND	101	13.4-199	4.07	20	
cis-1,2-Dichloroethene	0.672	0.024	mg/kg dry	0.6336	ND	106	27.4-176	5.60	20	
Ethylbenzene	0.683	0.024	mg/kg dry	0.6336	ND	108	71.8-116	4.42	20	
Isopropylbenzene	0.702	0.024	mg/kg dry	0.6336	ND	111	74.2-123	9.43	20	
m,p-Xylene	1.38	0.049	mg/kg dry	1.267	ND	109	71.1-111	3.66	20	
Methylene chloride	0.571	0.098	mg/kg dry	0.6336	ND	90.1	67.2-127	3.20	20	
Naphthalene	0.633	0.024	mg/kg dry	0.6336	ND	99.8	51.2-119	4.61	20	
n-Butyl Benzene	0.668	0.024	mg/kg dry	0.6336	ND	105	70.8-124	5.24	20	
n-Propyl Benzene	0.686	0.024	mg/kg dry	0.6336	ND	108	64.2-140	1.59	20	
o-Xylene	0.695	0.024	mg/kg dry	0.6336	ND	110	68.4-113	5.93	20	
p-Isopropyltoluene	0.684	0.024	mg/kg dry	0.6336	ND	108	69.8-128	5.88	20	
sec-Butyl Benzene	0.714	0.024	mg/kg dry	0.6336	ND	113	68.2-129	3.33	20	
Styrene	0.705	0.024	mg/kg dry	0.6336	ND	111	70.5-119	4.89	20	
tert-Butylbenzene	0.720	0.024	mg/kg dry	0.6336	ND	114	68.3-131	6.14	20	
Tetrachloroethene	0.627	0.024	mg/kg dry	0.6336	ND	99.0	35.4-165	5.29	20	
Toluene	0.724	0.024	mg/kg dry	0.6336	ND	114	59.9-117	11.7	20	
trans-1,2-Dichloroethene	0.643	0.024	mg/kg dry	0.6336	ND	101	34.4-160	2.65	20	
Trichloroethene	0.657	0.024	mg/kg dry	0.6336	ND	104	27.7-173	5.14	20	
Vinyl chloride	0.617	0.024	mg/kg dry	0.6336	ND	97.4	17.8-199	9.98	20	
Surrogate: 1-Bromo-2-chloroethane	0.670		mg/kg dry	0.6336		106	44.1-130			
Surrogate: Toluene-d8	0.663		mg/kg dry	0.6336		105	42-136			
Surrogate: 4-Bromofluorobenzene	0.681		mg/kg dry	0.6336		108	54.2-145			



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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605018 - EPA 3550B

Blank (K605018-BLK1)

Prepared: 05/20/2016 Analyzed: 05/20/2016 16:11

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.494		mg/kg wet	0.5000		98.9	44.1-130			
Surrogate: Toluene-d8	0.469		mg/kg wet	0.5000		93.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.532		mg/kg wet	0.5000		106	54.2-145			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605018 - EPA 3550B

LCS (K605018-BS1)

Prepared: 05/20/2016 Analyzed: 05/21/2016 01:30

1,1,1-Trichloroethane	0.535	0.025	mg/kg wet	0.5000		107	59.6-143			
1,1,2,2-Tetrachloroethane	0.522	0.025	mg/kg wet	0.5000		104	61.1-133			
1,1,2-Trichloroethane	0.506	0.025	mg/kg wet	0.5000		101	72.5-128			
1,1-Dichloroethane	0.538	0.025	mg/kg wet	0.5000		108	65-136			
1,1-Dichloroethene	0.606	0.025	mg/kg wet	0.5000		121	51.4-160			
1,2,3-Trichlorobenzene	0.530	0.025	mg/kg wet	0.5000		106	73.1-122			
1,2,4-Trichlorobenzene	0.541	0.025	mg/kg wet	0.5000		108	80.3-118			
1,2,4-Trimethylbenzene	0.532	0.025	mg/kg wet	0.5000		106	57.2-139			
1,2-Dichlorobenzene	0.524	0.025	mg/kg wet	0.5000		105	87.7-118			
1,2-Dichloroethane	0.494	0.025	mg/kg wet	0.5000		98.8	66.5-133			
1,3,5-Trimethylbenzene	0.504	0.025	mg/kg wet	0.5000		101	32-159			
1,3-Dichlorobenzene	0.503	0.025	mg/kg wet	0.5000		101	88.8-116			
1,4-Dichlorobenzene	0.542	0.025	mg/kg wet	0.5000		108	83.9-116			
2-Chlorotoluene	0.497	0.025	mg/kg wet	0.5000		99.4	87.3-130			
4-Chlorotoluene	0.489	0.025	mg/kg wet	0.5000		97.8	92.4-126			
Benzene	0.506	0.025	mg/kg wet	0.5000		101	67.1-128			
Carbon tetrachloride	0.548	0.025	mg/kg wet	0.5000		110	70.7-126			
Chlorobenzene	0.509	0.025	mg/kg wet	0.5000		102	83.1-114			
Chloroform	0.508	0.025	mg/kg wet	0.5000		102	73-127			
Chloromethane	0.430	0.050	mg/kg wet	0.5000		86.0	24.9-199			
cis-1,2-Dichloroethene	0.507	0.025	mg/kg wet	0.5000		101	67.7-129			
Ethylbenzene	0.520	0.025	mg/kg wet	0.5000		104	80.6-126			
Isopropylbenzene	0.513	0.025	mg/kg wet	0.5000		103	91.2-121			
m,p-Xylene	1.02	0.050	mg/kg wet	1.000		102	79-124			
Methylene chloride	0.505	0.10	mg/kg wet	0.5000		101	20-162			
Naphthalene	0.513	0.025	mg/kg wet	0.5000		103	64.2-125			
n-Butyl Benzene	0.509	0.025	mg/kg wet	0.5000		102	90.2-122			
n-Propyl Benzene	0.510	0.025	mg/kg wet	0.5000		102	84-139			
o-Xylene	0.508	0.025	mg/kg wet	0.5000		102	80.1-122			
p-Isopropyltoluene	0.502	0.025	mg/kg wet	0.5000		100	89-129			
sec-Butyl Benzene	0.495	0.025	mg/kg wet	0.5000		99.0	87.6-126			
Styrene	0.507	0.025	mg/kg wet	0.5000		101	82.8-116			
tert-Butylbenzene	0.524	0.025	mg/kg wet	0.5000		105	83.4-139			
Tetrachloroethene	0.552	0.025	mg/kg wet	0.5000		110	61.6-133			
Toluene	0.506	0.025	mg/kg wet	0.5000		101	65.2-134			
trans-1,2-Dichloroethene	0.566	0.025	mg/kg wet	0.5000		113	47.7-151			
Trichloroethene	0.525	0.025	mg/kg wet	0.5000		105	67.3-132			
Vinyl chloride	0.544	0.025	mg/kg wet	0.5000		109	25.9-199			

Surrogate: 1-Bromo-2-chloroethane	0.483		mg/kg wet	0.5000		96.7	44.1-130			
Surrogate: Toluene-d8	0.487		mg/kg wet	0.5000		97.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.510		mg/kg wet	0.5000		102	54.2-145			

Matrix Spike (K605018-MS1)

Source: K162105-08

Prepared: 05/20/2016 Analyzed: 05/21/2016 00:39

1,1,1-Trichloroethane	0.640	0.024	mg/kg dry	0.6802	ND	94.0	55.3-131			
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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605018 - EPA 3550B

Matrix Spike (K605018-MS1)	Source: K162105-08			Prepared: 05/20/2016 Analyzed: 05/21/2016 00:39						
1,1,2,2-Tetrachloroethane	0.656	0.024	mg/kg dry	0.6802	ND	96.5	29.5-139			
1,1,2-Trichloroethane	0.665	0.024	mg/kg dry	0.6802	ND	97.8	56.2-134			
1,1-Dichloroethane	0.622	0.024	mg/kg dry	0.6802	ND	91.5	53.1-134			
1,1-Dichloroethene	0.629	0.024	mg/kg dry	0.6802	ND	92.5	20.5-183			
1,2,3-Trichlorobenzene	0.628	0.024	mg/kg dry	0.6802	ND	92.3	52-117			
1,2,4-Trichlorobenzene	0.665	0.024	mg/kg dry	0.6802	ND	97.7	58.7-116			
1,2,4-Trimethylbenzene	0.641	0.024	mg/kg dry	0.6802	ND	94.2	66.1-129			
1,2-Dichlorobenzene	0.662	0.024	mg/kg dry	0.6802	ND	97.3	71.9-113			
1,2-Dichloroethane	0.635	0.024	mg/kg dry	0.6802	ND	93.3	56.5-128			
1,3,5-Trimethylbenzene	0.633	0.024	mg/kg dry	0.6802	ND	93.0	65.4-133			
1,3-Dichlorobenzene	0.637	0.024	mg/kg dry	0.6802	ND	93.7	62.7-125			
1,4-Dichlorobenzene	0.684	0.024	mg/kg dry	0.6802	ND	101	61.9-122			
2-Chlorotoluene	0.626	0.024	mg/kg dry	0.6802	ND	92.1	67.4-133			
4-Chlorotoluene	0.625	0.024	mg/kg dry	0.6802	ND	91.9	63.3-132			
Benzene	0.635	0.024	mg/kg dry	0.6802	ND	93.3	55.4-126			
Carbon tetrachloride	0.625	0.024	mg/kg dry	0.6802	ND	91.8	44.2-136			
Chlorobenzene	0.667	0.024	mg/kg dry	0.6802	ND	98.1	69.8-113			
Chloroform	0.619	0.024	mg/kg dry	0.6802	ND	91.1	60.6-127			
Chloromethane	0.426	0.048	mg/kg dry	0.6802	ND	62.6	13.4-199			
cis-1,2-Dichloroethene	0.612	0.024	mg/kg dry	0.6802	ND	90.0	27.4-176			
Ethylbenzene	0.666	0.024	mg/kg dry	0.6802	ND	97.9	71.8-116			
Isopropylbenzene	0.654	0.024	mg/kg dry	0.6802	ND	96.2	74.2-123			
m,p-Xylene	1.29	0.048	mg/kg dry	1.360	ND	95.0	71.1-111			
Methylene chloride	0.569	0.096	mg/kg dry	0.6802	ND	83.6	67.2-127			
Naphthalene	0.597	0.024	mg/kg dry	0.6802	ND	87.8	51.2-119			
n-Butyl Benzene	0.643	0.024	mg/kg dry	0.6802	ND	94.5	70.8-124			
n-Propyl Benzene	0.651	0.024	mg/kg dry	0.6802	ND	95.7	64.2-140			
o-Xylene	0.646	0.024	mg/kg dry	0.6802	ND	95.0	68.4-113			
p-Isopropyltoluene	0.647	0.024	mg/kg dry	0.6802	ND	95.2	69.8-128			
sec-Butyl Benzene	0.643	0.024	mg/kg dry	0.6802	ND	94.5	68.2-129			
Styrene	0.660	0.024	mg/kg dry	0.6802	ND	97.1	70.5-119			
tert-Butylbenzene	0.668	0.024	mg/kg dry	0.6802	ND	98.3	68.3-131			
Tetrachloroethene	0.652	0.024	mg/kg dry	0.6802	ND	95.9	35.4-165			
Toluene	0.630	0.024	mg/kg dry	0.6802	ND	92.6	59.9-117			
trans-1,2-Dichloroethene	0.633	0.024	mg/kg dry	0.6802	ND	93.1	34.4-160			
Trichloroethene	0.634	0.024	mg/kg dry	0.6802	ND	93.2	27.7-173			
Vinyl chloride	0.476	0.024	mg/kg dry	0.6802	ND	69.9	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.630</i>		<i>mg/kg dry</i>	<i>0.6802</i>		<i>92.6</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.604</i>		<i>mg/kg dry</i>	<i>0.6802</i>		<i>88.8</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.671</i>		<i>mg/kg dry</i>	<i>0.6802</i>		<i>98.6</i>	<i>54.2-145</i>			

Matrix Spike Dup (K605018-MSD1)	Source: K162105-08			Prepared: 05/20/2016 Analyzed: 05/21/2016 01:04						
1,1,1-Trichloroethane	0.685	0.027	mg/kg dry	0.7601	ND	90.1	55.3-131	4.29	20	
1,1,2,2-Tetrachloroethane	0.707	0.027	mg/kg dry	0.7601	ND	93.0	29.5-139	3.64	20	



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605018 - EPA 3550B

Matrix Spike Dup (K605018-MSD1)

Source: K162105-08

Prepared: 05/20/2016 Analyzed: 05/21/2016 01:04

1,1,2-Trichloroethane	0.685	0.027	mg/kg dry	0.7601	ND	90.1	56.2-134	8.16	20	
1,1-Dichloroethane	0.700	0.027	mg/kg dry	0.7601	ND	92.1	53.1-134	0.667	20	
1,1-Dichloroethene	0.704	0.027	mg/kg dry	0.7601	ND	92.6	20.5-183	0.164	20	
1,2,3-Trichlorobenzene	0.667	0.027	mg/kg dry	0.7601	ND	87.7	52-117	5.09	20	
1,2,4-Trichlorobenzene	0.682	0.027	mg/kg dry	0.7601	ND	89.7	58.7-116	8.56	20	
1,2,4-Trimethylbenzene	0.704	0.027	mg/kg dry	0.7601	ND	92.6	66.1-129	1.74	20	
1,2-Dichlorobenzene	0.717	0.027	mg/kg dry	0.7601	ND	94.3	71.9-113	3.21	20	
1,2-Dichloroethane	0.663	0.027	mg/kg dry	0.7601	ND	87.3	56.5-128	6.67	20	
1,3,5-Trimethylbenzene	0.705	0.027	mg/kg dry	0.7601	ND	92.8	65.4-133	0.209	20	
1,3-Dichlorobenzene	0.699	0.027	mg/kg dry	0.7601	ND	92.0	62.7-125	1.79	20	
1,4-Dichlorobenzene	0.739	0.027	mg/kg dry	0.7601	ND	97.2	61.9-122	3.44	20	
2-Chlorotoluene	0.691	0.027	mg/kg dry	0.7601	ND	90.9	67.4-133	1.27	20	
4-Chlorotoluene	0.678	0.027	mg/kg dry	0.7601	ND	89.2	63.3-132	2.97	20	
Benzene	0.671	0.027	mg/kg dry	0.7601	ND	88.3	55.4-126	5.48	20	
Carbon tetrachloride	0.701	0.027	mg/kg dry	0.7601	ND	92.3	44.2-136	0.472	20	
Chlorobenzene	0.715	0.027	mg/kg dry	0.7601	ND	94.0	69.8-113	4.27	20	
Chloroform	0.662	0.027	mg/kg dry	0.7601	ND	87.1	60.6-127	4.49	20	
Chloromethane	0.455	0.053	mg/kg dry	0.7601	ND	59.9	13.4-199	4.40	20	
cis-1,2-Dichloroethene	0.668	0.027	mg/kg dry	0.7601	ND	87.8	27.4-176	2.43	20	
Ethylbenzene	0.719	0.027	mg/kg dry	0.7601	ND	94.6	71.8-116	3.42	20	
Isopropylbenzene	0.711	0.027	mg/kg dry	0.7601	ND	93.5	74.2-123	2.86	20	
m,p-Xylene	1.41	0.053	mg/kg dry	1.520	ND	92.5	71.1-111	2.61	20	
Methylene chloride	0.622	0.11	mg/kg dry	0.7601	ND	81.8	67.2-127	2.21	20	
Naphthalene	0.633	0.027	mg/kg dry	0.7601	ND	83.3	51.2-119	5.28	20	
n-Butyl Benzene	0.709	0.027	mg/kg dry	0.7601	ND	93.2	70.8-124	1.40	20	
n-Propyl Benzene	0.692	0.027	mg/kg dry	0.7601	ND	91.0	64.2-140	5.06	20	
o-Xylene	0.724	0.027	mg/kg dry	0.7601	ND	95.2	68.4-113	0.248	20	
p-Isopropyltoluene	0.726	0.027	mg/kg dry	0.7601	ND	95.5	69.8-128	0.346	20	
sec-Butyl Benzene	0.699	0.027	mg/kg dry	0.7601	ND	91.9	68.2-129	2.83	20	
Styrene	0.705	0.027	mg/kg dry	0.7601	ND	92.7	70.5-119	4.56	20	
tert-Butylbenzene	0.710	0.027	mg/kg dry	0.7601	ND	93.3	68.3-131	5.13	20	
Tetrachloroethene	0.747	0.027	mg/kg dry	0.7601	ND	98.3	35.4-165	2.45	20	
Toluene	0.664	0.027	mg/kg dry	0.7601	ND	87.3	59.9-117	5.89	20	
trans-1,2-Dichloroethene	0.704	0.027	mg/kg dry	0.7601	ND	92.6	34.4-160	0.571	20	
Trichloroethene	0.687	0.027	mg/kg dry	0.7601	ND	90.3	27.7-173	3.13	20	
Vinyl chloride	0.539	0.027	mg/kg dry	0.7601	ND	70.9	17.8-199	1.43	20	
Surrogate: 1-Bromo-2-chloroethane	0.652		mg/kg dry	0.7601		85.7	44.1-130			
Surrogate: Toluene-d8	0.644		mg/kg dry	0.7601		84.7	42-136			
Surrogate: 4-Bromofluorobenzene	0.729		mg/kg dry	0.7601		95.9	54.2-145			



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605020 - EPA 3550B

Blank (K605020-BLK1)

Prepared: 05/21/2016 Analyzed: 05/21/2016 09:21

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.457		mg/kg wet	0.5000		91.4	44.1-130			
Surrogate: Toluene-d8	0.457		mg/kg wet	0.5000		91.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.501		mg/kg wet	0.5000		100	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605020 - EPA 3550B

LCS (K605020-BS1)

Prepared: 05/21/2016 Analyzed: 05/21/2016 12:52

1,1,1-Trichloroethane	0.455	0.025	mg/kg wet	0.5000		91.1	59.6-143			
1,1,2,2-Tetrachloroethane	0.529	0.025	mg/kg wet	0.5000		106	61.1-133			
1,1,2-Trichloroethane	0.508	0.025	mg/kg wet	0.5000		102	72.5-128			
1,1-Dichloroethane	0.482	0.025	mg/kg wet	0.5000		96.4	65-136			
1,1-Dichloroethene	0.462	0.025	mg/kg wet	0.5000		92.5	51.4-160			
1,2,3-Trichlorobenzene	0.529	0.025	mg/kg wet	0.5000		106	73.1-122			
1,2,4-Trichlorobenzene	0.537	0.025	mg/kg wet	0.5000		107	80.3-118			
1,2,4-Trimethylbenzene	0.495	0.025	mg/kg wet	0.5000		98.9	57.2-139			
1,2-Dichlorobenzene	0.542	0.025	mg/kg wet	0.5000		108	87.7-118			
1,2-Dichloroethane	0.452	0.025	mg/kg wet	0.5000		90.5	66.5-133			
1,3,5-Trimethylbenzene	0.453	0.025	mg/kg wet	0.5000		90.6	32-159			
1,3-Dichlorobenzene	0.501	0.025	mg/kg wet	0.5000		100	88.8-116			
1,4-Dichlorobenzene	0.529	0.025	mg/kg wet	0.5000		106	83.9-116			
2-Chlorotoluene	0.447	0.025	mg/kg wet	0.5000		89.4	87.3-130			
4-Chlorotoluene	0.492	0.025	mg/kg wet	0.5000		98.4	92.4-126			
Benzene	0.484	0.025	mg/kg wet	0.5000		96.8	67.1-128			
Carbon tetrachloride	0.462	0.025	mg/kg wet	0.5000		92.4	70.7-126			
Chlorobenzene	0.504	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.470	0.025	mg/kg wet	0.5000		93.9	73-127			
Chloromethane	0.270	0.050	mg/kg wet	0.5000		54.0	24.9-199			
cis-1,2-Dichloroethene	0.488	0.025	mg/kg wet	0.5000		97.6	67.7-129			
Ethylbenzene	0.504	0.025	mg/kg wet	0.5000		101	80.6-126			
Isopropylbenzene	0.491	0.025	mg/kg wet	0.5000		98.3	91.2-121			
m,p-Xylene	0.999	0.050	mg/kg wet	1.000		99.9	79-124			
Methylene chloride	0.437	0.10	mg/kg wet	0.5000		87.3	20-162			
Naphthalene	0.524	0.025	mg/kg wet	0.5000		105	64.2-125			
n-Butyl Benzene	0.485	0.025	mg/kg wet	0.5000		97.1	90.2-122			
n-Propyl Benzene	0.493	0.025	mg/kg wet	0.5000		98.7	84-139			
o-Xylene	0.518	0.025	mg/kg wet	0.5000		104	80.1-122			
p-Isopropyltoluene	0.470	0.025	mg/kg wet	0.5000		94.1	89-129			
sec-Butyl Benzene	0.491	0.025	mg/kg wet	0.5000		98.2	87.6-126			
Styrene	0.533	0.025	mg/kg wet	0.5000		107	82.8-116			
tert-Butylbenzene	0.491	0.025	mg/kg wet	0.5000		98.3	83.4-139			
Tetrachloroethene	0.422	0.025	mg/kg wet	0.5000		84.5	61.6-133			
Toluene	0.517	0.025	mg/kg wet	0.5000		103	65.2-134			
trans-1,2-Dichloroethene	0.468	0.025	mg/kg wet	0.5000		93.5	47.7-151			
Trichloroethene	0.479	0.025	mg/kg wet	0.5000		95.8	67.3-132			
Vinyl chloride	0.347	0.025	mg/kg wet	0.5000		69.4	25.9-199			

Surrogate: 1-Bromo-2-chloroethane	0.502		mg/kg wet	0.5000		100	44.1-130			
Surrogate: Toluene-d8	0.489		mg/kg wet	0.5000		97.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.510		mg/kg wet	0.5000		102	54.2-145			

Matrix Spike (K605020-MS1)

Source: K162106-10

Prepared: 05/21/2016 Analyzed: 05/21/2016 12:45

1,1,1-Trichloroethane	0.584	0.027	mg/kg dry	0.5709	ND	102	55.3-131			
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605020 - EPA 3550B

Matrix Spike (K605020-MS1)	Source: K162106-10			Prepared: 05/21/2016 Analyzed: 05/21/2016 12:45						
1,1,2,2-Tetrachloroethane	0.592	0.027	mg/kg dry	0.5709	ND	104	29.5-139			
1,1,2-Trichloroethane	0.567	0.027	mg/kg dry	0.5709	ND	99.2	56.2-134			
1,1-Dichloroethane	0.581	0.027	mg/kg dry	0.5709	ND	102	53.1-134			
1,1-Dichloroethene	0.614	0.027	mg/kg dry	0.5709	ND	108	20.5-183			
1,2,3-Trichlorobenzene	0.640	0.027	mg/kg dry	0.5709	ND	112	52-117			
1,2,4-Trichlorobenzene	0.607	0.027	mg/kg dry	0.5709	ND	106	58.7-116			
1,2,4-Trimethylbenzene	0.602	0.027	mg/kg dry	0.5709	ND	105	66.1-129			
1,2-Dichlorobenzene	0.617	0.027	mg/kg dry	0.5709	ND	108	71.9-113			
1,2-Dichloroethane	0.553	0.027	mg/kg dry	0.5709	ND	96.8	56.5-128			
1,3,5-Trimethylbenzene	0.653	0.027	mg/kg dry	0.5709	ND	114	65.4-133			
1,3-Dichlorobenzene	0.592	0.027	mg/kg dry	0.5709	ND	104	62.7-125			
1,4-Dichlorobenzene	0.635	0.027	mg/kg dry	0.5709	ND	111	61.9-122			
2-Chlorotoluene	0.588	0.027	mg/kg dry	0.5709	ND	103	67.4-133			
4-Chlorotoluene	0.580	0.027	mg/kg dry	0.5709	ND	102	63.3-132			
Benzene	0.559	0.027	mg/kg dry	0.5709	ND	97.8	55.4-126			
Carbon tetrachloride	0.606	0.027	mg/kg dry	0.5709	ND	106	44.2-136			
Chlorobenzene	0.615	0.027	mg/kg dry	0.5709	ND	108	69.8-113			
Chloroform	0.563	0.027	mg/kg dry	0.5709	ND	98.7	60.6-127			
Chloromethane	0.396	0.054	mg/kg dry	0.5709	ND	69.3	13.4-199			
cis-1,2-Dichloroethene	0.570	0.027	mg/kg dry	0.5709	ND	99.8	27.4-176			
Ethylbenzene	0.618	0.027	mg/kg dry	0.5709	ND	108	71.8-116			
Isopropylbenzene	0.613	0.027	mg/kg dry	0.5709	ND	107	74.2-123			
m,p-Xylene	1.22	0.054	mg/kg dry	1.142	ND	107	71.1-111			
Methylene chloride	0.543	0.11	mg/kg dry	0.5709	ND	95.2	67.2-127			
Naphthalene	0.604	0.027	mg/kg dry	0.5709	ND	106	51.2-119			
n-Butyl Benzene	0.587	0.027	mg/kg dry	0.5709	ND	103	70.8-124			
n-Propyl Benzene	0.628	0.027	mg/kg dry	0.5709	ND	110	64.2-140			
o-Xylene	0.606	0.027	mg/kg dry	0.5709	ND	106	68.4-113			
p-Isopropyltoluene	0.588	0.027	mg/kg dry	0.5709	ND	103	69.8-128			
sec-Butyl Benzene	0.601	0.027	mg/kg dry	0.5709	ND	105	68.2-129			
Styrene	0.608	0.027	mg/kg dry	0.5709	ND	107	70.5-119			
tert-Butylbenzene	0.650	0.027	mg/kg dry	0.5709	ND	114	68.3-131			
Tetrachloroethene	0.660	0.027	mg/kg dry	0.5709	ND	116	35.4-165			
Toluene	0.563	0.027	mg/kg dry	0.5709	ND	98.6	59.9-117			
trans-1,2-Dichloroethene	0.612	0.027	mg/kg dry	0.5709	ND	107	34.4-160			
Trichloroethene	0.592	0.027	mg/kg dry	0.5709	ND	104	27.7-173			
Vinyl chloride	0.489	0.027	mg/kg dry	0.5709	ND	85.6	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.565		mg/kg dry	0.5709		99.0	44.1-130			
Surrogate: Toluene-d8	0.562		mg/kg dry	0.5709		98.4	42-136			
Surrogate: 4-Bromofluorobenzene	0.609		mg/kg dry	0.5709		107	54.2-145			

Matrix Spike Dup (K605020-MSD1)	Source: K162106-10			Prepared: 05/21/2016 Analyzed: 05/21/2016 13:11						
1,1,1-Trichloroethane	0.634	0.028	mg/kg dry	0.5861	ND	108	55.3-131	5.55	20	
1,1,2,2-Tetrachloroethane	0.633	0.028	mg/kg dry	0.5861	ND	108	29.5-139	3.94	20	



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605020 - EPA 3550B

Matrix Spike Dup (K605020-MSD1)	Source: K162106-10			Prepared: 05/21/2016 Analyzed: 05/21/2016 13:11						
1,1,2-Trichloroethane	0.601	0.028	mg/kg dry	0.5861	ND	103	56.2-134	3.32	20	
1,1-Dichloroethane	0.634	0.028	mg/kg dry	0.5861	ND	108	53.1-134	5.99	20	
1,1-Dichloroethene	0.690	0.028	mg/kg dry	0.5861	ND	118	20.5-183	8.99	20	
1,2,3-Trichlorobenzene	0.658	0.028	mg/kg dry	0.5861	ND	112	52-117	0.267	20	
1,2,4-Trichlorobenzene	0.660	0.028	mg/kg dry	0.5861	ND	113	58.7-116	5.84	20	
1,2,4-Trimethylbenzene	0.650	0.028	mg/kg dry	0.5861	ND	111	66.1-129	5.07	20	
1,2-Dichlorobenzene	0.668	0.028	mg/kg dry	0.5861	ND	114	71.9-113	5.27	20	M
1,2-Dichloroethane	0.583	0.028	mg/kg dry	0.5861	ND	99.4	56.5-128	2.70	20	
1,3,5-Trimethylbenzene	0.655	0.028	mg/kg dry	0.5861	ND	112	65.4-133	2.44	20	
1,3-Dichlorobenzene	0.656	0.028	mg/kg dry	0.5861	ND	112	62.7-125	7.73	20	
1,4-Dichlorobenzene	0.684	0.028	mg/kg dry	0.5861	ND	117	61.9-122	4.83	20	
2-Chlorotoluene	0.649	0.028	mg/kg dry	0.5861	ND	111	67.4-133	7.33	20	
4-Chlorotoluene	0.623	0.028	mg/kg dry	0.5861	ND	106	63.3-132	4.47	20	
Benzene	0.592	0.028	mg/kg dry	0.5861	ND	101	55.4-126	3.11	20	
Carbon tetrachloride	0.647	0.028	mg/kg dry	0.5861	ND	110	44.2-136	3.95	20	
Chlorobenzene	0.672	0.028	mg/kg dry	0.5861	ND	115	69.8-113	6.33	20	M
Chloroform	0.595	0.028	mg/kg dry	0.5861	ND	102	60.6-127	2.81	20	
Chloromethane	0.428	0.055	mg/kg dry	0.5861	ND	73.1	13.4-199	5.26	20	
cis-1,2-Dichloroethene	0.588	0.028	mg/kg dry	0.5861	ND	100	27.4-176	0.520	20	
Ethylbenzene	0.670	0.028	mg/kg dry	0.5861	ND	114	71.8-116	5.42	20	
Isopropylbenzene	0.657	0.028	mg/kg dry	0.5861	ND	112	74.2-123	4.26	20	
m,p-Xylene	1.30	0.055	mg/kg dry	1.172	ND	111	71.1-111	4.02	20	
Methylene chloride	0.590	0.11	mg/kg dry	0.5861	ND	101	67.2-127	5.55	20	
Naphthalene	0.660	0.028	mg/kg dry	0.5861	ND	113	51.2-119	6.21	20	
n-Butyl Benzene	0.658	0.028	mg/kg dry	0.5861	ND	112	70.8-124	8.83	20	
n-Propyl Benzene	0.666	0.028	mg/kg dry	0.5861	ND	114	64.2-140	3.20	20	
o-Xylene	0.652	0.028	mg/kg dry	0.5861	ND	111	68.4-113	4.70	20	
p-Isopropyltoluene	0.677	0.028	mg/kg dry	0.5861	ND	115	69.8-128	11.5	20	
sec-Butyl Benzene	0.644	0.028	mg/kg dry	0.5861	ND	110	68.2-129	4.18	20	
Styrene	0.647	0.028	mg/kg dry	0.5861	ND	110	70.5-119	3.60	20	
tert-Butylbenzene	0.642	0.028	mg/kg dry	0.5861	ND	110	68.3-131	3.76	20	
Tetrachloroethene	0.731	0.028	mg/kg dry	0.5861	ND	125	35.4-165	7.51	20	
Toluene	0.614	0.028	mg/kg dry	0.5861	ND	105	59.9-117	6.09	20	
trans-1,2-Dichloroethene	0.675	0.028	mg/kg dry	0.5861	ND	115	34.4-160	7.14	20	
Trichloroethene	0.657	0.028	mg/kg dry	0.5861	ND	112	27.7-173	7.68	20	
Vinyl chloride	0.555	0.028	mg/kg dry	0.5861	ND	94.6	17.8-199	9.94	20	
Surrogate: 1-Bromo-2-chloroethane	0.612		mg/kg dry	0.5861		104	44.1-130			
Surrogate: Toluene-d8	0.610		mg/kg dry	0.5861		104	42-136			
Surrogate: 4-Bromofluorobenzene	0.653		mg/kg dry	0.5861		111	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605021 - EPA 3550B

Blank (K605021-BLK1)

Prepared: 05/23/2016 Analyzed: 05/23/2016 19:12

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.479		mg/kg wet	0.5000		95.7	44.1-130			
Surrogate: Toluene-d8	0.480		mg/kg wet	0.5000		96.0	42-136			
Surrogate: 4-Bromofluorobenzene	0.495		mg/kg wet	0.5000		98.9	54.2-145			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605021 - EPA 3550B

LCS (K605021-BS1)

Prepared: 05/23/2016 Analyzed: 05/23/2016 18:45

1,1,1-Trichloroethane	0.465	0.025	mg/kg wet	0.5000		92.9	59.6-143			
1,1,2,2-Tetrachloroethane	0.536	0.025	mg/kg wet	0.5000		107	61.1-133			
1,1,2-Trichloroethane	0.512	0.025	mg/kg wet	0.5000		102	72.5-128			
1,1-Dichloroethane	0.491	0.025	mg/kg wet	0.5000		98.2	65-136			
1,1-Dichloroethene	0.490	0.025	mg/kg wet	0.5000		98.0	51.4-160			
1,2,3-Trichlorobenzene	0.547	0.025	mg/kg wet	0.5000		109	73.1-122			
1,2,4-Trichlorobenzene	0.552	0.025	mg/kg wet	0.5000		110	80.3-118			
1,2,4-Trimethylbenzene	0.481	0.025	mg/kg wet	0.5000		96.1	57.2-139			
1,2-Dichlorobenzene	0.523	0.025	mg/kg wet	0.5000		105	87.7-118			
1,2-Dichloroethane	0.461	0.025	mg/kg wet	0.5000		92.1	66.5-133			
1,3,5-Trimethylbenzene	0.463	0.025	mg/kg wet	0.5000		92.6	32-159			
1,3-Dichlorobenzene	0.509	0.025	mg/kg wet	0.5000		102	88.8-116			
1,4-Dichlorobenzene	0.523	0.025	mg/kg wet	0.5000		105	83.9-116			
2-Chlorotoluene	0.450	0.025	mg/kg wet	0.5000		90.0	87.3-130			
4-Chlorotoluene	0.490	0.025	mg/kg wet	0.5000		98.1	92.4-126			
Benzene	0.492	0.025	mg/kg wet	0.5000		98.4	67.1-128			
Carbon tetrachloride	0.464	0.025	mg/kg wet	0.5000		92.7	70.7-126			
Chlorobenzene	0.493	0.025	mg/kg wet	0.5000		98.7	83.1-114			
Chloroform	0.461	0.025	mg/kg wet	0.5000		92.2	73-127			
Chloromethane	0.286	0.050	mg/kg wet	0.5000		57.1	24.9-199			
cis-1,2-Dichloroethene	0.498	0.025	mg/kg wet	0.5000		99.5	67.7-129			
Ethylbenzene	0.494	0.025	mg/kg wet	0.5000		98.7	80.6-126			
Isopropylbenzene	0.487	0.025	mg/kg wet	0.5000		97.4	91.2-121			
m,p-Xylene	1.01	0.050	mg/kg wet	1.000		101	79-124			
Methylene chloride	0.436	0.10	mg/kg wet	0.5000		87.2	20-162			
Naphthalene	0.553	0.025	mg/kg wet	0.5000		111	64.2-125			
n-Butyl Benzene	0.484	0.025	mg/kg wet	0.5000		96.9	90.2-122			
n-Propyl Benzene	0.470	0.025	mg/kg wet	0.5000		94.0	84-139			
o-Xylene	0.497	0.025	mg/kg wet	0.5000		99.4	80.1-122			
p-Isopropyltoluene	0.466	0.025	mg/kg wet	0.5000		93.2	89-129			
sec-Butyl Benzene	0.482	0.025	mg/kg wet	0.5000		96.5	87.6-126			
Styrene	0.511	0.025	mg/kg wet	0.5000		102	82.8-116			
tert-Butylbenzene	0.467	0.025	mg/kg wet	0.5000		93.4	83.4-139			
Tetrachloroethene	0.458	0.025	mg/kg wet	0.5000		91.5	61.6-133			
Toluene	0.493	0.025	mg/kg wet	0.5000		98.5	65.2-134			
trans-1,2-Dichloroethene	0.479	0.025	mg/kg wet	0.5000		95.8	47.7-151			
Trichloroethene	0.476	0.025	mg/kg wet	0.5000		95.2	67.3-132			
Vinyl chloride	0.387	0.025	mg/kg wet	0.5000		77.4	25.9-199			

Surrogate: 1-Bromo-2-chloroethane	0.510		mg/kg wet	0.5000		102	44.1-130			
Surrogate: Toluene-d8	0.490		mg/kg wet	0.5000		98.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.511		mg/kg wet	0.5000		102	54.2-145			

Matrix Spike (K605021-MS1)

Source: K162201-10

Prepared: 05/23/2016 Analyzed: 05/23/2016 18:20

1,1,1-Trichloroethane	0.587	0.026	mg/kg dry	0.5763	ND	102	55.3-131			
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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605021 - EPA 3550B

Matrix Spike (K605021-MS1)	Source: K162201-10			Prepared: 05/23/2016 Analyzed: 05/23/2016 18:20						
1,1,2,2-Tetrachloroethane	0.590	0.026	mg/kg dry	0.5763	ND	102	29.5-139			
1,1,2-Trichloroethane	0.572	0.026	mg/kg dry	0.5763	ND	99.2	56.2-134			
1,1-Dichloroethane	0.569	0.026	mg/kg dry	0.5763	ND	98.8	53.1-134			
1,1-Dichloroethene	0.605	0.026	mg/kg dry	0.5763	ND	105	20.5-183			
1,2,3-Trichlorobenzene	0.555	0.026	mg/kg dry	0.5763	ND	96.4	52-117			
1,2,4-Trichlorobenzene	0.588	0.026	mg/kg dry	0.5763	ND	102	58.7-116			
1,2,4-Trimethylbenzene	0.609	0.026	mg/kg dry	0.5763	ND	106	66.1-129			
1,2-Dichlorobenzene	0.592	0.026	mg/kg dry	0.5763	ND	103	71.9-113			
1,2-Dichloroethane	0.540	0.026	mg/kg dry	0.5763	ND	93.7	56.5-128			
1,3,5-Trimethylbenzene	0.593	0.026	mg/kg dry	0.5763	ND	103	65.4-133			
1,3-Dichlorobenzene	0.570	0.026	mg/kg dry	0.5763	ND	98.9	62.7-125			
1,4-Dichlorobenzene	0.620	0.026	mg/kg dry	0.5763	ND	108	61.9-122			
2-Chlorotoluene	0.562	0.026	mg/kg dry	0.5763	ND	97.6	67.4-133			
4-Chlorotoluene	0.568	0.026	mg/kg dry	0.5763	ND	98.5	63.3-132			
Benzene	0.538	0.026	mg/kg dry	0.5763	ND	93.3	55.4-126			
Carbon tetrachloride	0.597	0.026	mg/kg dry	0.5763	ND	104	44.2-136			
Chlorobenzene	0.570	0.026	mg/kg dry	0.5763	ND	99.0	69.8-113			
Chloroform	0.556	0.026	mg/kg dry	0.5763	ND	96.4	60.6-127			
Chloromethane	0.348	0.051	mg/kg dry	0.5763	ND	60.4	13.4-199			
cis-1,2-Dichloroethene	0.552	0.026	mg/kg dry	0.5763	ND	95.7	27.4-176			
Ethylbenzene	0.580	0.026	mg/kg dry	0.5763	ND	101	71.8-116			
Isopropylbenzene	0.595	0.026	mg/kg dry	0.5763	ND	103	74.2-123			
m,p-Xylene	1.16	0.051	mg/kg dry	1.153	ND	100	71.1-111			
Methylene chloride	0.520	0.10	mg/kg dry	0.5763	ND	90.3	67.2-127			
Naphthalene	0.539	0.026	mg/kg dry	0.5763	ND	93.5	51.2-119			
n-Butyl Benzene	0.593	0.026	mg/kg dry	0.5763	ND	103	70.8-124			
n-Propyl Benzene	0.596	0.026	mg/kg dry	0.5763	ND	103	64.2-140			
o-Xylene	0.588	0.026	mg/kg dry	0.5763	ND	102	68.4-113			
p-Isopropyltoluene	0.570	0.026	mg/kg dry	0.5763	ND	98.8	69.8-128			
sec-Butyl Benzene	0.583	0.026	mg/kg dry	0.5763	ND	101	68.2-129			
Styrene	0.594	0.026	mg/kg dry	0.5763	ND	103	70.5-119			
tert-Butylbenzene	0.602	0.026	mg/kg dry	0.5763	ND	105	68.3-131			
Tetrachloroethene	0.633	0.026	mg/kg dry	0.5763	ND	110	35.4-165			
Toluene	0.557	0.026	mg/kg dry	0.5763	ND	96.7	59.9-117			
trans-1,2-Dichloroethene	0.605	0.026	mg/kg dry	0.5763	ND	105	34.4-160			
Trichloroethene	0.599	0.026	mg/kg dry	0.5763	ND	104	27.7-173			
Vinyl chloride	0.446	0.026	mg/kg dry	0.5763	ND	77.4	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.553</i>		<i>mg/kg dry</i>	<i>0.5763</i>		<i>96.0</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.567</i>		<i>mg/kg dry</i>	<i>0.5763</i>		<i>98.4</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.590</i>		<i>mg/kg dry</i>	<i>0.5763</i>		<i>102</i>	<i>54.2-145</i>			

Matrix Spike Dup (K605021-MSD1)	Source: K162201-10			Prepared: 05/23/2016 Analyzed: 05/23/2016 18:46						
1,1,1-Trichloroethane	0.528	0.023	mg/kg dry	0.5276	ND	100	55.3-131	1.68	20	
1,1,2,2-Tetrachloroethane	0.520	0.023	mg/kg dry	0.5276	ND	98.5	29.5-139	3.79	20	



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605021 - EPA 3550B

Matrix Spike Dup (K605021-MSD1)	Source: K162201-10			Prepared: 05/23/2016 Analyzed: 05/23/2016 18:46						
1,1,2-Trichloroethane	0.502	0.023	mg/kg dry	0.5276	ND	95.2	56.2-134	4.20	20	
1,1-Dichloroethane	0.514	0.023	mg/kg dry	0.5276	ND	97.4	53.1-134	1.47	20	
1,1-Dichloroethene	0.539	0.023	mg/kg dry	0.5276	ND	102	20.5-183	2.60	20	
1,2,3-Trichlorobenzene	0.517	0.023	mg/kg dry	0.5276	ND	98.0	52-117	1.66	20	
1,2,4-Trichlorobenzene	0.524	0.023	mg/kg dry	0.5276	ND	99.3	58.7-116	2.74	20	
1,2,4-Trimethylbenzene	0.524	0.023	mg/kg dry	0.5276	ND	99.3	66.1-129	6.25	20	
1,2-Dichlorobenzene	0.527	0.023	mg/kg dry	0.5276	ND	100	71.9-113	2.65	20	
1,2-Dichloroethane	0.482	0.023	mg/kg dry	0.5276	ND	91.4	56.5-128	2.42	20	
1,3,5-Trimethylbenzene	0.499	0.023	mg/kg dry	0.5276	ND	94.5	65.4-133	8.49	20	
1,3-Dichlorobenzene	0.513	0.023	mg/kg dry	0.5276	ND	97.3	62.7-125	1.63	20	
1,4-Dichlorobenzene	0.554	0.023	mg/kg dry	0.5276	ND	105	61.9-122	2.48	20	
2-Chlorotoluene	0.481	0.023	mg/kg dry	0.5276	ND	91.2	67.4-133	6.73	20	
4-Chlorotoluene	0.501	0.023	mg/kg dry	0.5276	ND	95.0	63.3-132	3.59	20	
Benzene	0.496	0.023	mg/kg dry	0.5276	ND	94.0	55.4-126	0.664	20	
Carbon tetrachloride	0.543	0.023	mg/kg dry	0.5276	ND	103	44.2-136	0.673	20	
Chlorobenzene	0.521	0.023	mg/kg dry	0.5276	ND	98.8	69.8-113	0.198	20	
Chloroform	0.496	0.023	mg/kg dry	0.5276	ND	94.0	60.6-127	2.54	20	
Chloromethane	0.308	0.047	mg/kg dry	0.5276	ND	58.5	13.4-199	3.21	20	
cis-1,2-Dichloroethene	0.512	0.023	mg/kg dry	0.5276	ND	96.9	27.4-176	1.25	20	
Ethylbenzene	0.529	0.023	mg/kg dry	0.5276	ND	100	71.8-116	0.442	20	
Isopropylbenzene	0.525	0.023	mg/kg dry	0.5276	ND	99.5	74.2-123	3.65	20	
m,p-Xylene	1.05	0.047	mg/kg dry	1.055	ND	99.6	71.1-111	0.790	20	
Methylene chloride	0.465	0.094	mg/kg dry	0.5276	ND	88.2	67.2-127	2.31	20	
Naphthalene	0.515	0.023	mg/kg dry	0.5276	ND	97.5	51.2-119	4.18	20	
n-Butyl Benzene	0.519	0.023	mg/kg dry	0.5276	ND	98.3	70.8-124	4.57	20	
n-Propyl Benzene	0.524	0.023	mg/kg dry	0.5276	ND	99.3	64.2-140	4.07	20	
o-Xylene	0.519	0.023	mg/kg dry	0.5276	ND	98.3	68.4-113	3.81	20	
p-Isopropyltoluene	0.504	0.023	mg/kg dry	0.5276	ND	95.5	69.8-128	3.42	20	
sec-Butyl Benzene	0.505	0.023	mg/kg dry	0.5276	ND	95.8	68.2-129	5.48	20	
Styrene	0.522	0.023	mg/kg dry	0.5276	ND	98.9	70.5-119	4.11	20	
tert-Butylbenzene	0.580	0.023	mg/kg dry	0.5276	ND	110	68.3-131	4.95	20	
Tetrachloroethene	0.592	0.023	mg/kg dry	0.5276	ND	112	35.4-165	2.26	20	
Toluene	0.492	0.023	mg/kg dry	0.5276	ND	93.2	59.9-117	3.70	20	
trans-1,2-Dichloroethene	0.534	0.023	mg/kg dry	0.5276	ND	101	34.4-160	3.66	20	
Trichloroethene	0.532	0.023	mg/kg dry	0.5276	ND	101	27.7-173	3.08	20	
Vinyl chloride	0.390	0.023	mg/kg dry	0.5276	ND	74.0	17.8-199	4.46	20	
Surrogate: 1-Bromo-2-chloroethane	0.488		mg/kg dry	0.5276		92.6	44.1-130			
Surrogate: Toluene-d8	0.494		mg/kg dry	0.5276		93.6	42-136			
Surrogate: 4-Bromofluorobenzene	0.524		mg/kg dry	0.5276		99.4	54.2-145			



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605023 - EPA 3550B

Blank (K605023-BLK1)

Prepared: 05/24/2016 Analyzed: 05/24/2016 18:10

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.465		mg/kg wet	0.5000		93.0	44.1-130			
Surrogate: Toluene-d8	0.475		mg/kg wet	0.5000		94.9	42-136			
Surrogate: 4-Bromofluorobenzene	0.497		mg/kg wet	0.5000		99.5	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605023 - EPA 3550B

LCS (K605023-BS1)

Prepared: 05/24/2016 Analyzed: 05/24/2016 16:29

1,1,1-Trichloroethane	0.504	0.025	mg/kg wet	0.5000		101	59.6-143			
1,1,2,2-Tetrachloroethane	0.491	0.025	mg/kg wet	0.5000		98.3	61.1-133			
1,1,2-Trichloroethane	0.493	0.025	mg/kg wet	0.5000		98.5	72.5-128			
1,1-Dichloroethane	0.483	0.025	mg/kg wet	0.5000		96.5	65-136			
1,1-Dichloroethene	0.495	0.025	mg/kg wet	0.5000		99.0	51.4-160			
1,2,3-Trichlorobenzene	0.503	0.025	mg/kg wet	0.5000		101	73.1-122			
1,2,4-Trichlorobenzene	0.488	0.025	mg/kg wet	0.5000		97.6	80.3-118			
1,2,4-Trimethylbenzene	0.484	0.025	mg/kg wet	0.5000		96.8	57.2-139			
1,2-Dichlorobenzene	0.513	0.025	mg/kg wet	0.5000		103	87.7-118			
1,2-Dichloroethane	0.481	0.025	mg/kg wet	0.5000		96.3	66.5-133			
1,3,5-Trimethylbenzene	0.480	0.025	mg/kg wet	0.5000		96.0	32-159			
1,3-Dichlorobenzene	0.482	0.025	mg/kg wet	0.5000		96.5	88.8-116			
1,4-Dichlorobenzene	0.530	0.025	mg/kg wet	0.5000		106	83.9-116			
2-Chlorotoluene	0.464	0.025	mg/kg wet	0.5000		92.7	87.3-130			
4-Chlorotoluene	0.473	0.025	mg/kg wet	0.5000		94.6	92.4-126			
Benzene	0.457	0.025	mg/kg wet	0.5000		91.4	67.1-128			
Carbon tetrachloride	0.485	0.025	mg/kg wet	0.5000		97.0	70.7-126			
Chlorobenzene	0.503	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.460	0.025	mg/kg wet	0.5000		91.9	73-127			
Chloromethane	0.246	0.050	mg/kg wet	0.5000		49.2	24.9-199			
cis-1,2-Dichloroethene	0.467	0.025	mg/kg wet	0.5000		93.3	67.7-129			
Ethylbenzene	0.548	0.025	mg/kg wet	0.5000		110	80.6-126			
Isopropylbenzene	0.497	0.025	mg/kg wet	0.5000		99.3	91.2-121			
m,p-Xylene	0.998	0.050	mg/kg wet	1.000		99.8	79-124			
Methylene chloride	0.443	0.10	mg/kg wet	0.5000		88.7	20-162			
Naphthalene	0.479	0.025	mg/kg wet	0.5000		95.9	64.2-125			
n-Butyl Benzene	0.463	0.025	mg/kg wet	0.5000		92.6	90.2-122			
n-Propyl Benzene	0.477	0.025	mg/kg wet	0.5000		95.4	84-139			
o-Xylene	0.497	0.025	mg/kg wet	0.5000		99.5	80.1-122			
p-Isopropyltoluene	0.477	0.025	mg/kg wet	0.5000		95.3	89-129			
sec-Butyl Benzene	0.474	0.025	mg/kg wet	0.5000		94.8	87.6-126			
Styrene	0.496	0.025	mg/kg wet	0.5000		99.3	82.8-116			
tert-Butylbenzene	0.528	0.025	mg/kg wet	0.5000		106	83.4-139			
Tetrachloroethene	0.537	0.025	mg/kg wet	0.5000		107	61.6-133			
Toluene	0.484	0.025	mg/kg wet	0.5000		96.8	65.2-134			
trans-1,2-Dichloroethene	0.496	0.025	mg/kg wet	0.5000		99.2	47.7-151			
Trichloroethene	0.488	0.025	mg/kg wet	0.5000		97.7	67.3-132			
Vinyl chloride	0.348	0.025	mg/kg wet	0.5000		69.6	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.468		mg/kg wet	0.5000		93.7	44.1-130			
Surrogate: Toluene-d8	0.468		mg/kg wet	0.5000		93.7	42-136			
Surrogate: 4-Bromofluorobenzene	0.494		mg/kg wet	0.5000		98.9	54.2-145			

Matrix Spike (K605023-MS1)

Source: K162202-02

Prepared: 05/24/2016 Analyzed: 05/24/2016 18:35

1,1,1-Trichloroethane	0.743	0.028	mg/kg dry	0.8279	ND	89.7	55.3-131			
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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605023 - EPA 3550B

Matrix Spike (K605023-MS1)	Source: K162202-02			Prepared: 05/24/2016 Analyzed: 05/24/2016 18:35						
1,1,2,2-Tetrachloroethane	0.733	0.028	mg/kg dry	0.8279	ND	88.5	29.5-139			
1,1,2-Trichloroethane	0.742	0.028	mg/kg dry	0.8279	ND	89.6	56.2-134			
1,1-Dichloroethane	0.677	0.028	mg/kg dry	0.8279	ND	81.8	53.1-134			
1,1-Dichloroethene	0.666	0.028	mg/kg dry	0.8279	ND	80.5	20.5-183			
1,2,3-Trichlorobenzene	0.800	0.028	mg/kg dry	0.8279	ND	96.6	52-117			
1,2,4-Trichlorobenzene	0.772	0.028	mg/kg dry	0.8279	ND	93.3	58.7-116			
1,2,4-Trimethylbenzene	0.660	0.028	mg/kg dry	0.8279	ND	79.7	66.1-129			
1,2-Dichlorobenzene	0.759	0.028	mg/kg dry	0.8279	ND	91.6	71.9-113			
1,2-Dichloroethane	0.666	0.028	mg/kg dry	0.8279	ND	80.5	56.5-128			
1,3,5-Trimethylbenzene	0.652	0.028	mg/kg dry	0.8279	ND	78.7	65.4-133			
1,3-Dichlorobenzene	0.695	0.028	mg/kg dry	0.8279	ND	83.9	62.7-125			
1,4-Dichlorobenzene	0.759	0.028	mg/kg dry	0.8279	ND	91.7	61.9-122			
2-Chlorotoluene	0.655	0.028	mg/kg dry	0.8279	ND	79.1	67.4-133			
4-Chlorotoluene	0.682	0.028	mg/kg dry	0.8279	ND	82.4	63.3-132			
Benzene	0.649	0.028	mg/kg dry	0.8279	ND	78.4	55.4-126			
Carbon tetrachloride	0.728	0.028	mg/kg dry	0.8279	ND	87.9	44.2-136			
Chlorobenzene	0.721	0.028	mg/kg dry	0.8279	ND	87.0	69.8-113			
Chloroform	0.683	0.028	mg/kg dry	0.8279	0.0102	81.3	60.6-127			
Chloromethane	0.370	0.056	mg/kg dry	0.8279	ND	44.7	13.4-199			
cis-1,2-Dichloroethene	0.731	0.028	mg/kg dry	0.8279	ND	88.4	27.4-176			
Ethylbenzene	0.714	0.028	mg/kg dry	0.8279	ND	86.2	71.8-116			
Isopropylbenzene	0.708	0.028	mg/kg dry	0.8279	ND	85.5	74.2-123			
m,p-Xylene	1.42	0.056	mg/kg dry	1.656	ND	85.6	71.1-111			
Methylene chloride	0.602	0.11	mg/kg dry	0.8279	ND	72.8	67.2-127			
Naphthalene	0.789	0.028	mg/kg dry	0.8279	ND	95.3	51.2-119			
n-Butyl Benzene	0.668	0.028	mg/kg dry	0.8279	ND	80.7	70.8-124			
n-Propyl Benzene	0.643	0.028	mg/kg dry	0.8279	ND	77.7	64.2-140			
o-Xylene	0.708	0.028	mg/kg dry	0.8279	ND	85.5	68.4-113			
p-Isopropyltoluene	0.666	0.028	mg/kg dry	0.8279	ND	80.5	69.8-128			
sec-Butyl Benzene	0.662	0.028	mg/kg dry	0.8279	ND	79.9	68.2-129			
Styrene	0.723	0.028	mg/kg dry	0.8279	ND	87.4	70.5-119			
tert-Butylbenzene	0.681	0.028	mg/kg dry	0.8279	ND	82.3	68.3-131			
Tetrachloroethene	0.724	0.028	mg/kg dry	0.8279	ND	87.4	35.4-165			
Toluene	0.682	0.028	mg/kg dry	0.8279	ND	82.4	59.9-117			
trans-1,2-Dichloroethene	0.695	0.028	mg/kg dry	0.8279	ND	83.9	34.4-160			
Trichloroethene	0.710	0.028	mg/kg dry	0.8279	ND	85.8	27.7-173			
Vinyl chloride	0.409	0.028	mg/kg dry	0.8279	ND	49.4	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.681</i>		<i>mg/kg dry</i>	<i>0.8279</i>		<i>82.2</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.670</i>		<i>mg/kg dry</i>	<i>0.8279</i>		<i>81.0</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.740</i>		<i>mg/kg dry</i>	<i>0.8279</i>		<i>89.4</i>	<i>54.2-145</i>			

Matrix Spike (K605023-MS2)	Source: K162202-18			Prepared: 05/24/2016 Analyzed: 05/24/2016 19:26						
1,1,1-Trichloroethane	0.586	0.023	mg/kg dry	0.6147	ND	95.3	55.3-131			
1,1,2,2-Tetrachloroethane	0.582	0.023	mg/kg dry	0.6147	ND	94.6	29.5-139			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605023 - EPA 3550B

Matrix Spike (K605023-MS2)	Source: K162202-18			Prepared: 05/24/2016 Analyzed: 05/24/2016 19:26						
1,1,2-Trichloroethane	0.578	0.023	mg/kg dry	0.6147	ND	94.0	56.2-134			
1,1-Dichloroethane	0.570	0.023	mg/kg dry	0.6147	ND	92.8	53.1-134			
1,1-Dichloroethene	0.567	0.023	mg/kg dry	0.6147	ND	92.2	20.5-183			
1,2,3-Trichlorobenzene	0.614	0.023	mg/kg dry	0.6147	ND	99.8	52-117			
1,2,4-Trichlorobenzene	0.609	0.023	mg/kg dry	0.6147	ND	99.2	58.7-116			
1,2,4-Trimethylbenzene	0.544	0.023	mg/kg dry	0.6147	ND	88.5	66.1-129			
1,2-Dichlorobenzene	0.591	0.023	mg/kg dry	0.6147	ND	96.2	71.9-113			
1,2-Dichloroethane	0.540	0.023	mg/kg dry	0.6147	ND	87.9	56.5-128			
1,3,5-Trimethylbenzene	0.535	0.023	mg/kg dry	0.6147	ND	87.0	65.4-133			
1,3-Dichlorobenzene	0.545	0.023	mg/kg dry	0.6147	ND	88.6	62.7-125			
1,4-Dichlorobenzene	0.591	0.023	mg/kg dry	0.6147	ND	96.1	61.9-122			
2-Chlorotoluene	0.523	0.023	mg/kg dry	0.6147	ND	85.1	67.4-133			
4-Chlorotoluene	0.546	0.023	mg/kg dry	0.6147	ND	88.8	63.3-132			
Benzene	0.548	0.023	mg/kg dry	0.6147	ND	89.2	55.4-126			
Carbon tetrachloride	0.593	0.023	mg/kg dry	0.6147	ND	96.4	44.2-136			
Chlorobenzene	0.584	0.023	mg/kg dry	0.6147	ND	95.0	69.8-113			
Chloroform	0.564	0.023	mg/kg dry	0.6147	ND	91.7	60.6-127			
Chloromethane	0.273	0.047	mg/kg dry	0.6147	ND	44.5	13.4-199			
cis-1,2-Dichloroethene	0.543	0.023	mg/kg dry	0.6147	ND	88.4	27.4-176			
Ethylbenzene	0.618	0.023	mg/kg dry	0.6147	ND	101	71.8-116			
Isopropylbenzene	0.581	0.023	mg/kg dry	0.6147	ND	94.6	74.2-123			
m,p-Xylene	1.15	0.047	mg/kg dry	1.229	ND	93.8	71.1-111			
Methylene chloride	0.510	0.094	mg/kg dry	0.6147	ND	83.0	67.2-127			
Naphthalene	0.583	0.023	mg/kg dry	0.6147	ND	94.8	51.2-119			
n-Butyl Benzene	0.532	0.023	mg/kg dry	0.6147	ND	86.5	70.8-124			
n-Propyl Benzene	0.545	0.023	mg/kg dry	0.6147	ND	88.7	64.2-140			
o-Xylene	0.560	0.023	mg/kg dry	0.6147	ND	91.0	68.4-113			
p-Isopropyltoluene	0.535	0.023	mg/kg dry	0.6147	ND	87.1	69.8-128			
sec-Butyl Benzene	0.529	0.023	mg/kg dry	0.6147	ND	86.0	68.2-129			
Styrene	0.565	0.023	mg/kg dry	0.6147	ND	91.9	70.5-119			
tert-Butylbenzene	0.543	0.023	mg/kg dry	0.6147	ND	88.3	68.3-131			
Tetrachloroethene	0.605	0.023	mg/kg dry	0.6147	ND	98.5	35.4-165			
Toluene	0.552	0.023	mg/kg dry	0.6147	ND	89.8	59.9-117			
trans-1,2-Dichloroethene	0.586	0.023	mg/kg dry	0.6147	ND	95.4	34.4-160			
Trichloroethene	0.583	0.023	mg/kg dry	0.6147	ND	94.8	27.7-173			
Vinyl chloride	0.350	0.023	mg/kg dry	0.6147	ND	57.0	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.567</i>		<i>mg/kg dry</i>	<i>0.6147</i>		<i>92.3</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.551</i>		<i>mg/kg dry</i>	<i>0.6147</i>		<i>89.6</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.583</i>		<i>mg/kg dry</i>	<i>0.6147</i>		<i>94.8</i>	<i>54.2-145</i>			

Matrix Spike Dup (K605023-MSD1)	Source: K162202-02			Prepared: 05/24/2016 Analyzed: 05/24/2016 19:01						
1,1,1-Trichloroethane	0.699	0.026	mg/kg dry	0.7633	ND	91.5	55.3-131	2.02	20	
1,1,2,2-Tetrachloroethane	0.718	0.026	mg/kg dry	0.7633	ND	94.0	29.5-139	6.07	20	
1,1,2-Trichloroethane	0.670	0.026	mg/kg dry	0.7633	ND	87.7	56.2-134	2.10	20	



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605023 - EPA 3550B

Matrix Spike Dup (K605023-MSD1)	Source: K162202-02			Prepared: 05/24/2016 Analyzed: 05/24/2016 19:01						
1,1-Dichloroethane	0.671	0.026	mg/kg dry	0.7633	ND	87.9	53.1-134	7.20	20	
1,1-Dichloroethene	0.647	0.026	mg/kg dry	0.7633	ND	84.8	20.5-183	5.25	20	
1,2,3-Trichlorobenzene	0.734	0.026	mg/kg dry	0.7633	ND	96.1	52-117	0.500	20	
1,2,4-Trichlorobenzene	0.711	0.026	mg/kg dry	0.7633	ND	93.2	58.7-116	0.0687	20	
1,2,4-Trimethylbenzene	0.697	0.026	mg/kg dry	0.7633	ND	91.3	66.1-129	13.6	20	
1,2-Dichlorobenzene	0.715	0.026	mg/kg dry	0.7633	ND	93.7	71.9-113	2.21	20	
1,2-Dichloroethane	0.648	0.026	mg/kg dry	0.7633	ND	84.9	56.5-128	5.41	20	
1,3,5-Trimethylbenzene	0.697	0.026	mg/kg dry	0.7633	ND	91.3	65.4-133	14.9	20	
1,3-Dichlorobenzene	0.683	0.026	mg/kg dry	0.7633	ND	89.5	62.7-125	6.44	20	
1,4-Dichlorobenzene	0.729	0.026	mg/kg dry	0.7633	ND	95.6	61.9-122	4.13	20	
2-Chlorotoluene	0.693	0.026	mg/kg dry	0.7633	ND	90.7	67.4-133	13.7	20	
4-Chlorotoluene	0.672	0.026	mg/kg dry	0.7633	ND	88.1	63.3-132	6.67	20	
Benzene	0.643	0.026	mg/kg dry	0.7633	ND	84.2	55.4-126	7.16	20	
Carbon tetrachloride	0.717	0.026	mg/kg dry	0.7633	ND	94.0	44.2-136	6.72	20	
Chlorobenzene	0.715	0.026	mg/kg dry	0.7633	ND	93.7	69.8-113	7.37	20	
Chloroform	0.687	0.026	mg/kg dry	0.7633	0.0102	88.6	60.6-127	8.61	20	
Chloromethane	0.358	0.051	mg/kg dry	0.7633	ND	46.9	13.4-199	4.66	20	
cis-1,2-Dichloroethene	0.669	0.026	mg/kg dry	0.7633	ND	87.6	27.4-176	0.827	20	
Ethylbenzene	0.714	0.026	mg/kg dry	0.7633	ND	93.6	71.8-116	8.22	20	
Isopropylbenzene	0.721	0.026	mg/kg dry	0.7633	ND	94.5	74.2-123	10.0	20	
m,p-Xylene	1.43	0.051	mg/kg dry	1.527	ND	93.5	71.1-111	8.82	20	
Methylene chloride	0.602	0.10	mg/kg dry	0.7633	ND	78.9	67.2-127	8.08	20	
Naphthalene	0.730	0.026	mg/kg dry	0.7633	ND	95.6	51.2-119	0.388	20	
n-Butyl Benzene	0.681	0.026	mg/kg dry	0.7633	ND	89.2	70.8-124	10.0	20	
n-Propyl Benzene	0.735	0.026	mg/kg dry	0.7633	ND	96.3	64.2-140	21.4	20	
o-Xylene	0.710	0.026	mg/kg dry	0.7633	ND	93.0	68.4-113	8.37	20	
p-Isopropyltoluene	0.668	0.026	mg/kg dry	0.7633	ND	87.5	69.8-128	8.40	20	
sec-Butyl Benzene	0.693	0.026	mg/kg dry	0.7633	ND	90.8	68.2-129	12.8	20	
Styrene	0.699	0.026	mg/kg dry	0.7633	ND	91.6	70.5-119	4.69	20	
tert-Butylbenzene	0.700	0.026	mg/kg dry	0.7633	ND	91.7	68.3-131	10.9	20	
Tetrachloroethene	0.773	0.026	mg/kg dry	0.7633	ND	101	35.4-165	14.6	20	
Toluene	0.681	0.026	mg/kg dry	0.7633	ND	89.2	59.9-117	7.94	20	
trans-1,2-Dichloroethene	0.692	0.026	mg/kg dry	0.7633	ND	90.6	34.4-160	7.72	20	
Trichloroethene	0.712	0.026	mg/kg dry	0.7633	ND	93.3	27.7-173	8.37	20	
Vinyl chloride	0.429	0.026	mg/kg dry	0.7633	ND	56.3	17.8-199	13.0	20	
Surrogate: 1-Bromo-2-chloroethane	0.626		mg/kg dry	0.7633		82.0	44.1-130			
Surrogate: Toluene-d8	0.657		mg/kg dry	0.7633		86.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.690		mg/kg dry	0.7633		90.5	54.2-145			

Matrix Spike Dup (K605023-MSD2)	Source: K162202-18			Prepared: 05/24/2016 Analyzed: 05/24/2016 19:52						
1,1,1-Trichloroethane	0.612	0.024	mg/kg dry	0.6313	ND	97.0	55.3-131	1.75	20	
1,1,2,2-Tetrachloroethane	0.581	0.024	mg/kg dry	0.6313	ND	92.0	29.5-139	2.81	20	
1,1,2-Trichloroethane	0.564	0.024	mg/kg dry	0.6313	ND	89.3	56.2-134	5.12	20	
1,1-Dichloroethane	0.587	0.024	mg/kg dry	0.6313	ND	93.0	53.1-134	0.215	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605023 - EPA 3550B

Matrix Spike Dup (K605023-MSD2)

Source: K162202-18

Prepared: 05/24/2016 Analyzed: 05/24/2016 19:52

1,1-Dichloroethene	0.593	0.024	mg/kg dry	0.6313	ND	94.0	20.5-183	1.86	20	
1,2,3-Trichlorobenzene	0.619	0.024	mg/kg dry	0.6313	ND	98.1	52-117	1.77	20	
1,2,4-Trichlorobenzene	0.615	0.024	mg/kg dry	0.6313	ND	97.5	58.7-116	1.68	20	
1,2,4-Trimethylbenzene	0.573	0.024	mg/kg dry	0.6313	ND	90.8	66.1-129	2.48	20	
1,2-Dichlorobenzene	0.591	0.024	mg/kg dry	0.6313	ND	93.6	71.9-113	2.74	20	
1,2-Dichloroethane	0.563	0.024	mg/kg dry	0.6313	ND	89.2	56.5-128	1.41	20	
1,3,5-Trimethylbenzene	0.563	0.024	mg/kg dry	0.6313	ND	89.1	65.4-133	2.44	20	
1,3-Dichlorobenzene	0.570	0.024	mg/kg dry	0.6313	ND	90.3	62.7-125	1.88	20	
1,4-Dichlorobenzene	0.608	0.024	mg/kg dry	0.6313	ND	96.4	61.9-122	0.268	20	
2-Chlorotoluene	0.543	0.024	mg/kg dry	0.6313	ND	86.0	67.4-133	1.10	20	
4-Chlorotoluene	0.555	0.024	mg/kg dry	0.6313	ND	87.9	63.3-132	1.01	20	
Benzene	0.552	0.024	mg/kg dry	0.6313	ND	87.5	55.4-126	2.00	20	
Carbon tetrachloride	0.624	0.024	mg/kg dry	0.6313	ND	98.8	44.2-136	2.45	20	
Chlorobenzene	0.578	0.024	mg/kg dry	0.6313	ND	91.6	69.8-113	3.62	20	
Chloroform	0.566	0.024	mg/kg dry	0.6313	ND	89.6	60.6-127	2.27	20	
Chloromethane	0.336	0.048	mg/kg dry	0.6313	ND	53.3	13.4-199	18.0	20	
cis-1,2-Dichloroethene	0.572	0.024	mg/kg dry	0.6313	ND	90.7	27.4-176	2.60	20	
Ethylbenzene	0.593	0.024	mg/kg dry	0.6313	ND	93.9	71.8-116	6.89	20	
Isopropylbenzene	0.600	0.024	mg/kg dry	0.6313	ND	95.0	74.2-123	0.445	20	
m,p-Xylene	1.19	0.048	mg/kg dry	1.263	ND	94.3	71.1-111	0.629	20	
Methylene chloride	0.534	0.096	mg/kg dry	0.6313	ND	84.6	67.2-127	1.87	20	
Naphthalene	0.593	0.024	mg/kg dry	0.6313	ND	94.0	51.2-119	0.877	20	
n-Butyl Benzene	0.565	0.024	mg/kg dry	0.6313	ND	89.5	70.8-124	3.40	20	
n-Propyl Benzene	0.559	0.024	mg/kg dry	0.6313	ND	88.5	64.2-140	0.228	20	
o-Xylene	0.592	0.024	mg/kg dry	0.6313	ND	93.9	68.4-113	3.05	20	
p-Isopropyltoluene	0.546	0.024	mg/kg dry	0.6313	ND	86.5	69.8-128	0.645	20	
sec-Butyl Benzene	0.558	0.024	mg/kg dry	0.6313	ND	88.4	68.2-129	2.77	20	
Styrene	0.602	0.024	mg/kg dry	0.6313	ND	95.3	70.5-119	3.62	20	
tert-Butylbenzene	0.578	0.024	mg/kg dry	0.6313	ND	91.6	68.3-131	3.67	20	
Tetrachloroethene	0.649	0.024	mg/kg dry	0.6313	ND	103	35.4-165	4.36	20	
Toluene	0.562	0.024	mg/kg dry	0.6313	ND	89.0	59.9-117	0.855	20	
trans-1,2-Dichloroethene	0.624	0.024	mg/kg dry	0.6313	ND	98.9	34.4-160	3.59	20	
Trichloroethene	0.621	0.024	mg/kg dry	0.6313	ND	98.4	27.7-173	3.77	20	
Vinyl chloride	0.362	0.024	mg/kg dry	0.6313	ND	57.4	17.8-199	0.748	20	
Surrogate: 1-Bromo-2-chloroethane	0.542		mg/kg dry	0.6313		85.8	44.1-130			
Surrogate: Toluene-d8	0.559		mg/kg dry	0.6313		88.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.603		mg/kg dry	0.6313		95.6	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605026 - EPA 3550B

Blank (K605026-BLK1)

Prepared: 05/25/2016 Analyzed: 05/25/2016 15:15

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.522		mg/kg wet	0.5000		104	44.1-130			
Surrogate: Toluene-d8	0.496		mg/kg wet	0.5000		99.2	42-136			
Surrogate: 4-Bromofluorobenzene	0.576		mg/kg wet	0.5000		115	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605026 - EPA 3550B

LCS (K605026-BS1)

Prepared: 05/25/2016 Analyzed: 05/25/2016 14:48

1,1,1-Trichloroethane	0.452	0.025	mg/kg wet	0.5000		90.3	59.6-143			
1,1,2,2-Tetrachloroethane	0.546	0.025	mg/kg wet	0.5000		109	61.1-133			
1,1,2-Trichloroethane	0.613	0.025	mg/kg wet	0.5000		123	72.5-128			
1,1-Dichloroethane	0.470	0.025	mg/kg wet	0.5000		94.1	65-136			
1,1-Dichloroethene	0.381	0.025	mg/kg wet	0.5000		76.2	51.4-160			
1,2,3-Trichlorobenzene	0.583	0.025	mg/kg wet	0.5000		117	73.1-122			
1,2,4-Trichlorobenzene	0.574	0.025	mg/kg wet	0.5000		115	80.3-118			
1,2,4-Trimethylbenzene	0.461	0.025	mg/kg wet	0.5000		92.2	57.2-139			
1,2-Dichlorobenzene	0.535	0.025	mg/kg wet	0.5000		107	87.7-118			
1,2-Dichloroethane	0.491	0.025	mg/kg wet	0.5000		98.2	66.5-133			
1,3,5-Trimethylbenzene	0.454	0.025	mg/kg wet	0.5000		90.7	32-159			
1,3-Dichlorobenzene	0.494	0.025	mg/kg wet	0.5000		98.9	88.8-116			
1,4-Dichlorobenzene	0.515	0.025	mg/kg wet	0.5000		103	83.9-116			
2-Chlorotoluene	0.432	0.025	mg/kg wet	0.5000		86.4	87.3-130			
4-Chlorotoluene	0.420	0.025	mg/kg wet	0.5000		83.9	92.4-126			
Benzene	0.474	0.025	mg/kg wet	0.5000		94.7	67.1-128			
Carbon tetrachloride	0.443	0.025	mg/kg wet	0.5000		88.6	70.7-126			
Chlorobenzene	0.510	0.025	mg/kg wet	0.5000		102	83.1-114			
Chloroform	0.481	0.025	mg/kg wet	0.5000		96.2	73-127			
Chloromethane	0.190	0.050	mg/kg wet	0.5000		38.1	24.9-199			
cis-1,2-Dichloroethene	0.466	0.025	mg/kg wet	0.5000		93.3	67.7-129			
Ethylbenzene	0.461	0.025	mg/kg wet	0.5000		92.2	80.6-126			
Isopropylbenzene	0.491	0.025	mg/kg wet	0.5000		98.1	91.2-121			
m,p-Xylene	0.969	0.050	mg/kg wet	1.000		96.9	79-124			
Methylene chloride	0.380	0.10	mg/kg wet	0.5000		76.1	20-162			
Naphthalene	0.580	0.025	mg/kg wet	0.5000		116	64.2-125			
n-Butyl Benzene	0.468	0.025	mg/kg wet	0.5000		93.7	90.2-122			
n-Propyl Benzene	0.445	0.025	mg/kg wet	0.5000		89.1	84-139			
o-Xylene	0.522	0.025	mg/kg wet	0.5000		104	80.1-122			
p-Isopropyltoluene	0.470	0.025	mg/kg wet	0.5000		94.0	89-129			
sec-Butyl Benzene	0.474	0.025	mg/kg wet	0.5000		94.8	87.6-126			
Styrene	0.538	0.025	mg/kg wet	0.5000		108	82.8-116			
tert-Butylbenzene	0.443	0.025	mg/kg wet	0.5000		88.6	83.4-139			
Tetrachloroethene	0.376	0.025	mg/kg wet	0.5000		75.1	61.6-133			
Toluene	0.521	0.025	mg/kg wet	0.5000		104	65.2-134			
trans-1,2-Dichloroethene	0.419	0.025	mg/kg wet	0.5000		83.8	47.7-151			
Trichloroethene	0.457	0.025	mg/kg wet	0.5000		91.4	67.3-132			
Vinyl chloride	0.197	0.025	mg/kg wet	0.5000		39.5	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.546		mg/kg wet	0.5000		109	44.1-130			
Surrogate: Toluene-d8	0.524		mg/kg wet	0.5000		105	42-136			
Surrogate: 4-Bromofluorobenzene	0.559		mg/kg wet	0.5000		112	54.2-145			

Matrix Spike (K605026-MS1)

Source: K162203-09

Prepared: 05/25/2016 Analyzed: 05/25/2016 14:45

1,1,1-Trichloroethane	0.549	0.025	mg/kg dry	0.6553	ND	83.7	55.3-131			
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605026 - EPA 3550B

Matrix Spike (K605026-MS1)	Source: K162203-09			Prepared: 05/25/2016 Analyzed: 05/25/2016 14:45						
1,1,2,2-Tetrachloroethane	0.528	0.025	mg/kg dry	0.6553	ND	80.5	29.5-139			
1,1,2-Trichloroethane	0.539	0.025	mg/kg dry	0.6553	ND	82.3	56.2-134			
1,1-Dichloroethane	0.515	0.025	mg/kg dry	0.6553	ND	78.7	53.1-134			
1,1-Dichloroethene	0.499	0.025	mg/kg dry	0.6553	ND	76.1	20.5-183			
1,2,3-Trichlorobenzene	0.520	0.025	mg/kg dry	0.6553	ND	79.3	52-117			
1,2,4-Trichlorobenzene	0.528	0.025	mg/kg dry	0.6553	ND	80.6	58.7-116			
1,2,4-Trimethylbenzene	0.553	0.025	mg/kg dry	0.6553	ND	84.4	66.1-129			
1,2-Dichlorobenzene	0.559	0.025	mg/kg dry	0.6553	ND	85.2	71.9-113			
1,2-Dichloroethane	0.511	0.025	mg/kg dry	0.6553	ND	78.0	56.5-128			
1,3,5-Trimethylbenzene	0.560	0.025	mg/kg dry	0.6553	ND	85.4	65.4-133			
1,3-Dichlorobenzene	0.536	0.025	mg/kg dry	0.6553	ND	81.8	62.7-125			
1,4-Dichlorobenzene	0.583	0.025	mg/kg dry	0.6553	ND	89.0	61.9-122			
2-Chlorotoluene	0.533	0.025	mg/kg dry	0.6553	ND	81.3	67.4-133			
4-Chlorotoluene	0.527	0.025	mg/kg dry	0.6553	ND	80.4	63.3-132			
Benzene	0.506	0.025	mg/kg dry	0.6553	ND	77.2	55.4-126			
Carbon tetrachloride	0.546	0.025	mg/kg dry	0.6553	ND	83.3	44.2-136			
Chlorobenzene	0.562	0.025	mg/kg dry	0.6553	ND	85.8	69.8-113			
Chloroform	0.520	0.025	mg/kg dry	0.6553	ND	79.3	60.6-127			
Chloromethane	0.232	0.050	mg/kg dry	0.6553	ND	35.5	13.4-199			
cis-1,2-Dichloroethene	0.511	0.025	mg/kg dry	0.6553	ND	78.0	27.4-176			
Ethylbenzene	0.632	0.025	mg/kg dry	0.6553	ND	96.4	71.8-116			
Isopropylbenzene	0.563	0.025	mg/kg dry	0.6553	ND	86.0	74.2-123			
m,p-Xylene	1.13	0.050	mg/kg dry	1.311	ND	86.0	71.1-111			
Methylene chloride	0.464	0.10	mg/kg dry	0.6553	ND	70.9	67.2-127			
Naphthalene	0.481	0.025	mg/kg dry	0.6553	ND	73.4	51.2-119			
n-Butyl Benzene	0.565	0.025	mg/kg dry	0.6553	ND	86.2	70.8-124			
n-Propyl Benzene	0.559	0.025	mg/kg dry	0.6553	ND	85.4	64.2-140			
o-Xylene	0.559	0.025	mg/kg dry	0.6553	ND	85.3	68.4-113			
p-Isopropyltoluene	0.532	0.025	mg/kg dry	0.6553	ND	81.2	69.8-128			
sec-Butyl Benzene	0.544	0.025	mg/kg dry	0.6553	ND	83.1	68.2-129			
Styrene	0.534	0.025	mg/kg dry	0.6553	ND	81.5	70.5-119			
tert-Butylbenzene	0.567	0.025	mg/kg dry	0.6553	ND	86.5	68.3-131			
Tetrachloroethene	0.608	0.025	mg/kg dry	0.6553	ND	92.8	35.4-165			
Toluene	0.525	0.025	mg/kg dry	0.6553	ND	80.1	59.9-117			
trans-1,2-Dichloroethene	0.528	0.025	mg/kg dry	0.6553	ND	80.6	34.4-160			
Trichloroethene	0.547	0.025	mg/kg dry	0.6553	ND	83.5	27.7-173			
Vinyl chloride	0.305	0.025	mg/kg dry	0.6553	ND	46.5	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	0.527		mg/kg dry	0.6553		80.4	44.1-130			
<i>Surrogate: Toluene-d8</i>	0.539		mg/kg dry	0.6553		82.3	42-136			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.552		mg/kg dry	0.6553		84.2	54.2-145			

Matrix Spike Dup (K605026-MSD1)	Source: K162203-09			Prepared: 05/25/2016 Analyzed: 05/25/2016 15:10						
1,1,1-Trichloroethane	0.576	0.025	mg/kg dry	0.6463	ND	89.1	55.3-131	6.19	20	
1,1,2,2-Tetrachloroethane	0.529	0.025	mg/kg dry	0.6463	ND	81.8	29.5-139	1.60	20	



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605026 - EPA 3550B

Matrix Spike Dup (K605026-MSD1)

Source: K162203-09

Prepared: 05/25/2016 Analyzed: 05/25/2016 15:10

1,1,2-Trichloroethane	0.549	0.025	mg/kg dry	0.6463	ND	84.9	56.2-134	3.13	20	
1,1-Dichloroethane	0.540	0.025	mg/kg dry	0.6463	ND	83.6	53.1-134	6.06	20	
1,1-Dichloroethene	0.530	0.025	mg/kg dry	0.6463	ND	82.0	20.5-183	7.46	20	
1,2,3-Trichlorobenzene	0.506	0.025	mg/kg dry	0.6463	ND	78.3	52-117	1.30	20	
1,2,4-Trichlorobenzene	0.557	0.025	mg/kg dry	0.6463	ND	86.2	58.7-116	6.69	20	
1,2,4-Trimethylbenzene	0.573	0.025	mg/kg dry	0.6463	ND	88.6	66.1-129	4.87	20	
1,2-Dichlorobenzene	0.573	0.025	mg/kg dry	0.6463	ND	88.6	71.9-113	3.84	20	
1,2-Dichloroethane	0.541	0.025	mg/kg dry	0.6463	ND	83.7	56.5-128	7.07	20	
1,3,5-Trimethylbenzene	0.562	0.025	mg/kg dry	0.6463	ND	87.0	65.4-133	1.85	20	
1,3-Dichlorobenzene	0.571	0.025	mg/kg dry	0.6463	ND	88.3	62.7-125	7.69	20	
1,4-Dichlorobenzene	0.573	0.025	mg/kg dry	0.6463	ND	88.7	61.9-122	0.304	20	
2-Chlorotoluene	0.549	0.025	mg/kg dry	0.6463	ND	84.9	67.4-133	4.33	20	
4-Chlorotoluene	0.529	0.025	mg/kg dry	0.6463	ND	81.8	63.3-132	1.69	20	
Benzene	0.520	0.025	mg/kg dry	0.6463	ND	80.5	55.4-126	4.23	20	
Carbon tetrachloride	0.556	0.025	mg/kg dry	0.6463	ND	86.0	44.2-136	3.13	20	
Chlorobenzene	0.558	0.025	mg/kg dry	0.6463	ND	86.3	69.8-113	0.642	20	
Chloroform	0.557	0.025	mg/kg dry	0.6463	ND	86.2	60.6-127	8.28	20	
Chloromethane	0.248	0.049	mg/kg dry	0.6463	ND	38.4	13.4-199	8.11	20	
cis-1,2-Dichloroethene	0.520	0.025	mg/kg dry	0.6463	ND	80.5	27.4-176	3.23	20	
Ethylbenzene	0.559	0.025	mg/kg dry	0.6463	ND	86.5	71.8-116	10.8	20	
Isopropylbenzene	0.565	0.025	mg/kg dry	0.6463	ND	87.4	74.2-123	1.70	20	
m,p-Xylene	1.11	0.049	mg/kg dry	1.293	ND	86.0	71.1-111	0.0326	20	
Methylene chloride	0.474	0.098	mg/kg dry	0.6463	ND	73.4	67.2-127	3.46	20	
Naphthalene	0.470	0.025	mg/kg dry	0.6463	ND	72.7	51.2-119	0.945	20	
n-Butyl Benzene	0.560	0.025	mg/kg dry	0.6463	ND	86.7	70.8-124	0.606	20	
n-Propyl Benzene	0.550	0.025	mg/kg dry	0.6463	ND	85.1	64.2-140	0.350	20	
o-Xylene	0.555	0.025	mg/kg dry	0.6463	ND	85.8	68.4-113	0.673	20	
p-Isopropyltoluene	0.550	0.025	mg/kg dry	0.6463	ND	85.2	69.8-128	4.73	20	
sec-Butyl Benzene	0.563	0.025	mg/kg dry	0.6463	ND	87.2	68.2-129	4.81	20	
Styrene	0.559	0.025	mg/kg dry	0.6463	ND	86.5	70.5-119	6.03	20	
tert-Butylbenzene	0.607	0.025	mg/kg dry	0.6463	ND	94.0	68.3-131	8.28	20	
Tetrachloroethene	0.591	0.025	mg/kg dry	0.6463	ND	91.5	35.4-165	1.46	20	
Toluene	0.529	0.025	mg/kg dry	0.6463	ND	81.8	59.9-117	2.10	20	
trans-1,2-Dichloroethene	0.551	0.025	mg/kg dry	0.6463	ND	85.3	34.4-160	5.60	20	
Trichloroethene	0.552	0.025	mg/kg dry	0.6463	ND	85.5	27.7-173	2.35	20	
Vinyl chloride	0.304	0.025	mg/kg dry	0.6463	ND	47.1	17.8-199	1.25	20	
Surrogate: 1-Bromo-2-chloroethane	0.536		mg/kg dry	0.6463		83.0	44.1-130			
Surrogate: Toluene-d8	0.558		mg/kg dry	0.6463		86.3	42-136			
Surrogate: 4-Bromofluorobenzene	0.574		mg/kg dry	0.6463		88.9	54.2-145			



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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605027 - EPA 3550B

Blank (K605027-BLK1)

Prepared: 05/25/2016 Analyzed: 05/25/2016 21:29

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.443		mg/kg wet	0.5000		88.6	44.1-130			
Surrogate: Toluene-d8	0.453		mg/kg wet	0.5000		90.7	42-136			
Surrogate: 4-Bromofluorobenzene	0.500		mg/kg wet	0.5000		99.9	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605027 - EPA 3550B

LCS (K605027-BS1)

Prepared: 05/25/2016 Analyzed: 05/25/2016 21:55

1,1,1-Trichloroethane	0.478	0.025	mg/kg wet	0.5000		95.5	59.6-143			
1,1,2,2-Tetrachloroethane	0.496	0.025	mg/kg wet	0.5000		99.2	61.1-133			
1,1,2-Trichloroethane	0.471	0.025	mg/kg wet	0.5000		94.2	72.5-128			
1,1-Dichloroethane	0.452	0.025	mg/kg wet	0.5000		90.4	65-136			
1,1-Dichloroethene	0.463	0.025	mg/kg wet	0.5000		92.6	51.4-160			
1,2,3-Trichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	73.1-122			
1,2,4-Trichlorobenzene	0.511	0.025	mg/kg wet	0.5000		102	80.3-118			
1,2,4-Trimethylbenzene	0.478	0.025	mg/kg wet	0.5000		95.6	57.2-139			
1,2-Dichlorobenzene	0.528	0.025	mg/kg wet	0.5000		106	87.7-118			
1,2-Dichloroethane	0.467	0.025	mg/kg wet	0.5000		93.4	66.5-133			
1,3,5-Trimethylbenzene	0.484	0.025	mg/kg wet	0.5000		96.8	32-159			
1,3-Dichlorobenzene	0.479	0.025	mg/kg wet	0.5000		95.7	88.8-116			
1,4-Dichlorobenzene	0.520	0.025	mg/kg wet	0.5000		104	83.9-116			
2-Chlorotoluene	0.478	0.025	mg/kg wet	0.5000		95.7	87.3-130			
4-Chlorotoluene	0.466	0.025	mg/kg wet	0.5000		93.3	92.4-126			
Benzene	0.443	0.025	mg/kg wet	0.5000		88.6	67.1-128			
Carbon tetrachloride	0.473	0.025	mg/kg wet	0.5000		94.6	70.7-126			
Chlorobenzene	0.492	0.025	mg/kg wet	0.5000		98.3	83.1-114			
Chloroform	0.445	0.025	mg/kg wet	0.5000		89.0	73-127			
Chloromethane	0.172	0.050	mg/kg wet	0.5000		34.5	24.9-199			
cis-1,2-Dichloroethene	0.452	0.025	mg/kg wet	0.5000		90.4	67.7-129			
Ethylbenzene	0.498	0.025	mg/kg wet	0.5000		99.5	80.6-126			
Isopropylbenzene	0.501	0.025	mg/kg wet	0.5000		100	91.2-121			
m,p-Xylene	0.996	0.050	mg/kg wet	1.000		99.6	79-124			
Methylene chloride	0.407	0.10	mg/kg wet	0.5000		81.3	20-162			
Naphthalene	0.493	0.025	mg/kg wet	0.5000		98.6	64.2-125			
n-Butyl Benzene	0.466	0.025	mg/kg wet	0.5000		93.2	90.2-122			
n-Propyl Benzene	0.487	0.025	mg/kg wet	0.5000		97.4	84-139			
o-Xylene	0.499	0.025	mg/kg wet	0.5000		99.8	80.1-122			
p-Isopropyltoluene	0.468	0.025	mg/kg wet	0.5000		93.6	89-129			
sec-Butyl Benzene	0.474	0.025	mg/kg wet	0.5000		94.8	87.6-126			
Styrene	0.492	0.025	mg/kg wet	0.5000		98.4	82.8-116			
tert-Butylbenzene	0.472	0.025	mg/kg wet	0.5000		94.4	83.4-139			
Tetrachloroethene	0.539	0.025	mg/kg wet	0.5000		108	61.6-133			
Toluene	0.460	0.025	mg/kg wet	0.5000		91.9	65.2-134			
trans-1,2-Dichloroethene	0.470	0.025	mg/kg wet	0.5000		94.0	47.7-151			
Trichloroethene	0.484	0.025	mg/kg wet	0.5000		96.8	67.3-132			
Vinyl chloride	0.273	0.025	mg/kg wet	0.5000		54.6	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.454		mg/kg wet	0.5000		90.7	44.1-130			
Surrogate: Toluene-d8	0.464		mg/kg wet	0.5000		92.9	42-136			
Surrogate: 4-Bromofluorobenzene	0.497		mg/kg wet	0.5000		99.3	54.2-145			

Matrix Spike (K605027-MS1)

Source: K162203-19

Prepared: 05/25/2016 Analyzed: 05/25/2016 21:38

1,1,1-Trichloroethane	0.459	0.024	mg/kg dry	0.5888	ND	77.9	55.3-131			
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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605027 - EPA 3550B

Matrix Spike (K605027-MS1)	Source: K162203-19			Prepared: 05/25/2016 Analyzed: 05/25/2016 21:38						
1,1,2,2-Tetrachloroethane	0.535	0.024	mg/kg dry	0.5888	ND	90.8	29.5-139			
1,1,2-Trichloroethane	0.470	0.024	mg/kg dry	0.5888	ND	79.8	56.2-134			
1,1-Dichloroethane	0.474	0.024	mg/kg dry	0.5888	ND	80.4	53.1-134			
1,1-Dichloroethene	0.398	0.024	mg/kg dry	0.5888	ND	67.6	20.5-183			
1,2,3-Trichlorobenzene	0.518	0.024	mg/kg dry	0.5888	ND	87.9	52-117			
1,2,4-Trichlorobenzene	0.509	0.024	mg/kg dry	0.5888	ND	86.4	58.7-116			
1,2,4-Trimethylbenzene	0.566	0.024	mg/kg dry	0.5888	ND	96.0	66.1-129			
1,2-Dichlorobenzene	0.518	0.024	mg/kg dry	0.5888	ND	88.0	71.9-113			
1,2-Dichloroethane	0.469	0.024	mg/kg dry	0.5888	ND	79.6	56.5-128			
1,3,5-Trimethylbenzene	0.533	0.024	mg/kg dry	0.5888	ND	90.6	65.4-133			
1,3-Dichlorobenzene	0.537	0.024	mg/kg dry	0.5888	ND	91.2	62.7-125			
1,4-Dichlorobenzene	0.538	0.024	mg/kg dry	0.5888	ND	91.4	61.9-122			
2-Chlorotoluene	0.517	0.024	mg/kg dry	0.5888	ND	87.7	67.4-133			
4-Chlorotoluene	0.499	0.024	mg/kg dry	0.5888	ND	84.8	63.3-132			
Benzene	0.489	0.024	mg/kg dry	0.5888	ND	83.1	55.4-126			
Carbon tetrachloride	0.468	0.024	mg/kg dry	0.5888	ND	79.4	44.2-136			
Chlorobenzene	0.507	0.024	mg/kg dry	0.5888	ND	86.0	69.8-113			
Chloroform	0.473	0.024	mg/kg dry	0.5888	ND	80.4	60.6-127			
Chloromethane	0.304	0.047	mg/kg dry	0.5888	ND	51.6	13.4-199			
cis-1,2-Dichloroethene	0.470	0.024	mg/kg dry	0.5888	ND	79.9	27.4-176			
Ethylbenzene	0.519	0.024	mg/kg dry	0.5888	ND	88.2	71.8-116			
Isopropylbenzene	0.506	0.024	mg/kg dry	0.5888	ND	85.9	74.2-123			
m,p-Xylene	1.02	0.047	mg/kg dry	1.178	ND	86.6	71.1-111			
Methylene chloride	0.405	0.094	mg/kg dry	0.5888	ND	68.8	67.2-127			
Naphthalene	0.528	0.024	mg/kg dry	0.5888	ND	89.7	51.2-119			
n-Butyl Benzene	0.530	0.024	mg/kg dry	0.5888	ND	90.0	70.8-124			
n-Propyl Benzene	0.554	0.024	mg/kg dry	0.5888	ND	94.0	64.2-140			
o-Xylene	0.506	0.024	mg/kg dry	0.5888	ND	85.9	68.4-113			
p-Isopropyltoluene	0.517	0.024	mg/kg dry	0.5888	ND	87.9	69.8-128			
sec-Butyl Benzene	0.544	0.024	mg/kg dry	0.5888	ND	92.3	68.2-129			
Styrene	0.515	0.024	mg/kg dry	0.5888	ND	87.4	70.5-119			
tert-Butylbenzene	0.549	0.024	mg/kg dry	0.5888	ND	93.3	68.3-131			
Tetrachloroethene	0.449	0.024	mg/kg dry	0.5888	ND	76.3	35.4-165			
Toluene	0.496	0.024	mg/kg dry	0.5888	ND	84.2	59.9-117			
trans-1,2-Dichloroethene	0.464	0.024	mg/kg dry	0.5888	ND	78.8	34.4-160			
Trichloroethene	0.463	0.024	mg/kg dry	0.5888	ND	78.6	27.7-173			
Vinyl chloride	0.257	0.024	mg/kg dry	0.5888	ND	43.6	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.500		mg/kg dry	0.5888		84.9	44.1-130			
Surrogate: Toluene-d8	0.507		mg/kg dry	0.5888		86.2	42-136			
Surrogate: 4-Bromofluorobenzene	0.483		mg/kg dry	0.5888		82.0	54.2-145			

Matrix Spike Dup (K605027-MSD1)	Source: K162203-19			Prepared: 05/25/2016 Analyzed: 05/25/2016 22:05						
1,1,1-Trichloroethane	0.476	0.023	mg/kg dry	0.5643	ND	84.4	55.3-131	8.00	20	
1,1,1,2-Tetrachloroethane	0.550	0.023	mg/kg dry	0.5643	ND	97.5	29.5-139	7.14	20	



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605027 - EPA 3550B

Matrix Spike Dup (K605027-MSD1)

Source: K162203-19

Prepared: 05/25/2016 Analyzed: 05/25/2016 22:05

1,1,2-Trichloroethane	0.511	0.023	mg/kg dry	0.5643	ND	90.6	56.2-134	12.7	20	
1,1-Dichloroethane	0.485	0.023	mg/kg dry	0.5643	ND	85.9	53.1-134	6.54	20	
1,1-Dichloroethene	0.411	0.023	mg/kg dry	0.5643	ND	72.9	20.5-183	7.44	20	
1,2,3-Trichlorobenzene	0.556	0.023	mg/kg dry	0.5643	ND	98.6	52-117	11.5	20	
1,2,4-Trichlorobenzene	0.568	0.023	mg/kg dry	0.5643	ND	101	58.7-116	15.3	20	
1,2,4-Trimethylbenzene	0.514	0.023	mg/kg dry	0.5643	ND	91.0	66.1-129	5.36	20	
1,2-Dichlorobenzene	0.536	0.023	mg/kg dry	0.5643	ND	95.0	71.9-113	7.59	20	
1,2-Dichloroethane	0.482	0.023	mg/kg dry	0.5643	ND	85.5	56.5-128	7.12	20	
1,3,5-Trimethylbenzene	0.522	0.023	mg/kg dry	0.5643	ND	92.5	65.4-133	2.04	20	
1,3-Dichlorobenzene	0.518	0.023	mg/kg dry	0.5643	ND	91.9	62.7-125	0.690	20	
1,4-Dichlorobenzene	0.529	0.023	mg/kg dry	0.5643	ND	93.8	61.9-122	2.56	20	
2-Chlorotoluene	0.500	0.023	mg/kg dry	0.5643	ND	88.7	67.4-133	1.06	20	
4-Chlorotoluene	0.507	0.023	mg/kg dry	0.5643	ND	89.9	63.3-132	5.83	20	
Benzene	0.510	0.023	mg/kg dry	0.5643	ND	90.4	55.4-126	8.40	20	
Carbon tetrachloride	0.473	0.023	mg/kg dry	0.5643	ND	83.8	44.2-136	5.37	20	
Chlorobenzene	0.515	0.023	mg/kg dry	0.5643	ND	91.2	69.8-113	5.85	20	
Chloroform	0.492	0.023	mg/kg dry	0.5643	ND	87.3	60.6-127	8.21	20	
Chloromethane	0.219	0.045	mg/kg dry	0.5643	ND	38.7	13.4-199	28.5	20	X
cis-1,2-Dichloroethene	0.502	0.023	mg/kg dry	0.5643	ND	88.9	27.4-176	10.7	20	
Ethylbenzene	0.528	0.023	mg/kg dry	0.5643	ND	93.5	71.8-116	5.87	20	
Isopropylbenzene	0.508	0.023	mg/kg dry	0.5643	ND	90.1	74.2-123	4.70	20	
m,p-Xylene	1.04	0.045	mg/kg dry	1.129	ND	92.0	71.1-111	6.07	20	
Methylene chloride	0.408	0.090	mg/kg dry	0.5643	ND	72.3	67.2-127	4.99	20	
Naphthalene	0.584	0.023	mg/kg dry	0.5643	ND	103	51.2-119	14.2	20	
n-Butyl Benzene	0.519	0.023	mg/kg dry	0.5643	ND	92.0	70.8-124	2.12	20	
n-Propyl Benzene	0.549	0.023	mg/kg dry	0.5643	ND	97.3	64.2-140	3.41	20	
o-Xylene	0.531	0.023	mg/kg dry	0.5643	ND	94.1	68.4-113	9.18	20	
p-Isopropyltoluene	0.514	0.023	mg/kg dry	0.5643	ND	91.1	69.8-128	3.64	20	
sec-Butyl Benzene	0.551	0.023	mg/kg dry	0.5643	ND	97.6	68.2-129	5.56	20	
Styrene	0.547	0.023	mg/kg dry	0.5643	ND	97.0	70.5-119	10.3	20	
tert-Butylbenzene	0.487	0.023	mg/kg dry	0.5643	ND	86.3	68.3-131	7.69	20	
Tetrachloroethene	0.471	0.023	mg/kg dry	0.5643	ND	83.5	35.4-165	9.02	20	
Toluene	0.521	0.023	mg/kg dry	0.5643	ND	92.4	59.9-117	9.19	20	
trans-1,2-Dichloroethene	0.475	0.023	mg/kg dry	0.5643	ND	84.1	34.4-160	6.51	20	
Trichloroethene	0.501	0.023	mg/kg dry	0.5643	ND	88.7	27.7-173	12.1	20	
Vinyl chloride	0.250	0.023	mg/kg dry	0.5643	ND	44.2	17.8-199	1.37	20	
Surrogate: 1-Bromo-2-chloroethane	0.534		mg/kg dry	0.5643		94.6	44.1-130			
Surrogate: Toluene-d8	0.533		mg/kg dry	0.5643		94.4	42-136			
Surrogate: 4-Bromofluorobenzene	0.483		mg/kg dry	0.5643		85.6	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605028 - EPA 3550B

Blank (K605028-BLK1)

Prepared: 05/26/2016 Analyzed: 05/26/2016 13:09

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.452		mg/kg wet	0.5000		90.4	44.1-130			
Surrogate: Toluene-d8	0.460		mg/kg wet	0.5000		92.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.466		mg/kg wet	0.5000		93.2	54.2-145			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605028 - EPA 3550B

LCS (K605028-BS1)

Prepared: 05/26/2016 Analyzed: 05/26/2016 11:22

1,1,1-Trichloroethane	0.455	0.025	mg/kg wet	0.5000		91.0	59.6-143			
1,1,2,2-Tetrachloroethane	0.510	0.025	mg/kg wet	0.5000		102	61.1-133			
1,1,2-Trichloroethane	0.492	0.025	mg/kg wet	0.5000		98.5	72.5-128			
1,1-Dichloroethane	0.473	0.025	mg/kg wet	0.5000		94.6	65-136			
1,1-Dichloroethene	0.446	0.025	mg/kg wet	0.5000		89.2	51.4-160			
1,2,3-Trichlorobenzene	0.491	0.025	mg/kg wet	0.5000		98.1	73.1-122			
1,2,4-Trichlorobenzene	0.491	0.025	mg/kg wet	0.5000		98.2	80.3-118			
1,2,4-Trimethylbenzene	0.555	0.025	mg/kg wet	0.5000		111	57.2-139			
1,2-Dichlorobenzene	0.501	0.025	mg/kg wet	0.5000		100	87.7-118			
1,2-Dichloroethane	0.466	0.025	mg/kg wet	0.5000		93.2	66.5-133			
1,3,5-Trimethylbenzene	0.529	0.025	mg/kg wet	0.5000		106	32-159			
1,3-Dichlorobenzene	0.500	0.025	mg/kg wet	0.5000		100	88.8-116			
1,4-Dichlorobenzene	0.522	0.025	mg/kg wet	0.5000		104	83.9-116			
2-Chlorotoluene	0.534	0.025	mg/kg wet	0.5000		107	87.3-130			
4-Chlorotoluene	0.487	0.025	mg/kg wet	0.5000		97.4	92.4-126			
Benzene	0.513	0.025	mg/kg wet	0.5000		103	67.1-128			
Carbon tetrachloride	0.462	0.025	mg/kg wet	0.5000		92.5	70.7-126			
Chlorobenzene	0.500	0.025	mg/kg wet	0.5000		100	83.1-114			
Chloroform	0.464	0.025	mg/kg wet	0.5000		92.9	73-127			
Chloromethane	0.646	0.050	mg/kg wet	0.5000		129	24.9-199			
cis-1,2-Dichloroethene	0.490	0.025	mg/kg wet	0.5000		98.0	67.7-129			
Ethylbenzene	0.522	0.025	mg/kg wet	0.5000		104	80.6-126			
Isopropylbenzene	0.490	0.025	mg/kg wet	0.5000		98.0	91.2-121			
m,p-Xylene	1.00	0.050	mg/kg wet	1.000		100	79-124			
Methylene chloride	0.411	0.10	mg/kg wet	0.5000		82.2	20-162			
Naphthalene	0.488	0.025	mg/kg wet	0.5000		97.6	64.2-125			
n-Butyl Benzene	0.509	0.025	mg/kg wet	0.5000		102	90.2-122			
n-Propyl Benzene	0.525	0.025	mg/kg wet	0.5000		105	84-139			
o-Xylene	0.506	0.025	mg/kg wet	0.5000		101	80.1-122			
p-Isopropyltoluene	0.603	0.025	mg/kg wet	0.5000		121	89-129			
sec-Butyl Benzene	0.521	0.025	mg/kg wet	0.5000		104	87.6-126			
Styrene	0.514	0.025	mg/kg wet	0.5000		103	82.8-116			
tert-Butylbenzene	0.526	0.025	mg/kg wet	0.5000		105	83.4-139			
Tetrachloroethene	0.461	0.025	mg/kg wet	0.5000		92.3	61.6-133			
Toluene	0.522	0.025	mg/kg wet	0.5000		104	65.2-134			
trans-1,2-Dichloroethene	0.463	0.025	mg/kg wet	0.5000		92.6	47.7-151			
Trichloroethene	0.470	0.025	mg/kg wet	0.5000		93.9	67.3-132			
Vinyl chloride	0.513	0.025	mg/kg wet	0.5000		103	25.9-199			

Surrogate: 1-Bromo-2-chloroethane	0.490		mg/kg wet	0.5000		98.0	44.1-130			
Surrogate: Toluene-d8	0.497		mg/kg wet	0.5000		99.4	42-136			
Surrogate: 4-Bromofluorobenzene	0.494		mg/kg wet	0.5000		98.8	54.2-145			

Matrix Spike (K605028-MS1)

Source: K162204-08

Prepared: 05/26/2016 Analyzed: 05/26/2016 15:15

1,1,1-Trichloroethane	0.812	0.028	mg/kg dry	0.8858	ND	91.7	55.3-131			
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605028 - EPA 3550B

Matrix Spike (K605028-MS1)	Source: K162204-08			Prepared: 05/26/2016 Analyzed: 05/26/2016 15:15						
1,1,2,2-Tetrachloroethane	0.743	0.028	mg/kg dry	0.8858	ND	83.9	29.5-139			
1,1,2-Trichloroethane	0.757	0.028	mg/kg dry	0.8858	ND	85.5	56.2-134			
1,1-Dichloroethane	0.799	0.028	mg/kg dry	0.8858	ND	90.2	53.1-134			
1,1-Dichloroethene	0.955	0.028	mg/kg dry	0.8858	ND	108	20.5-183			
1,2,3-Trichlorobenzene	0.742	0.028	mg/kg dry	0.8858	ND	83.8	52-117			
1,2,4-Trichlorobenzene	0.749	0.028	mg/kg dry	0.8858	ND	84.5	58.7-116			
1,2,4-Trimethylbenzene	0.756	0.028	mg/kg dry	0.8858	ND	85.3	66.1-129			
1,2-Dichlorobenzene	0.759	0.028	mg/kg dry	0.8858	ND	85.7	71.9-113			
1,2-Dichloroethane	0.759	0.028	mg/kg dry	0.8858	ND	85.7	56.5-128			
1,3,5-Trimethylbenzene	0.722	0.028	mg/kg dry	0.8858	ND	81.5	65.4-133			
1,3-Dichlorobenzene	0.768	0.028	mg/kg dry	0.8858	ND	86.8	62.7-125			
1,4-Dichlorobenzene	0.787	0.028	mg/kg dry	0.8858	ND	88.9	61.9-122			
2-Chlorotoluene	0.719	0.028	mg/kg dry	0.8858	ND	81.2	67.4-133			
4-Chlorotoluene	0.724	0.028	mg/kg dry	0.8858	ND	81.8	63.3-132			
Benzene	0.743	0.028	mg/kg dry	0.8858	ND	83.9	55.4-126			
Carbon tetrachloride	0.816	0.028	mg/kg dry	0.8858	ND	92.1	44.2-136			
Chlorobenzene	0.755	0.028	mg/kg dry	0.8858	ND	85.2	69.8-113			
Chloroform	0.755	0.028	mg/kg dry	0.8858	ND	85.2	60.6-127			
Chloromethane	1.29	0.057	mg/kg dry	0.8858	ND	146	13.4-199			
cis-1,2-Dichloroethene	0.760	0.028	mg/kg dry	0.8858	ND	85.8	27.4-176			
Ethylbenzene	0.835	0.028	mg/kg dry	0.8858	ND	94.3	71.8-116			
Isopropylbenzene	0.772	0.028	mg/kg dry	0.8858	ND	87.2	74.2-123			
m,p-Xylene	1.52	0.057	mg/kg dry	1.772	ND	85.6	71.1-111			
Methylene chloride	0.753	0.11	mg/kg dry	0.8858	ND	85.1	67.2-127			
Naphthalene	0.711	0.028	mg/kg dry	0.8858	ND	80.3	51.2-119			
n-Butyl Benzene	0.808	0.028	mg/kg dry	0.8858	ND	91.3	70.8-124			
n-Propyl Benzene	0.732	0.028	mg/kg dry	0.8858	ND	82.6	64.2-140			
o-Xylene	0.782	0.028	mg/kg dry	0.8858	ND	88.3	68.4-113			
p-Isopropyltoluene	0.716	0.028	mg/kg dry	0.8858	ND	80.9	69.8-128			
sec-Butyl Benzene	0.737	0.028	mg/kg dry	0.8858	ND	83.2	68.2-129			
Styrene	0.826	0.028	mg/kg dry	0.8858	ND	93.2	70.5-119			
tert-Butylbenzene	0.847	0.028	mg/kg dry	0.8858	ND	95.6	68.3-131			
Tetrachloroethene	0.828	0.028	mg/kg dry	0.8858	ND	93.4	35.4-165			
Toluene	0.741	0.028	mg/kg dry	0.8858	ND	83.6	59.9-117			
trans-1,2-Dichloroethene	0.876	0.028	mg/kg dry	0.8858	ND	98.8	34.4-160			
Trichloroethene	0.783	0.028	mg/kg dry	0.8858	ND	88.4	27.7-173			
Vinyl chloride	1.18	0.028	mg/kg dry	0.8858	ND	133	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	0.737		mg/kg dry	0.8858		83.2	44.1-130			
<i>Surrogate: Toluene-d8</i>	0.745		mg/kg dry	0.8858		84.1	42-136			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.808		mg/kg dry	0.8858		91.2	54.2-145			

Matrix Spike Dup (K605028-MSD1)	Source: K162204-08			Prepared: 05/26/2016 Analyzed: 05/26/2016 15:40						
1,1,1-Trichloroethane	0.826	0.028	mg/kg dry	0.8699	ND	95.0	55.3-131	3.53	20	
1,1,2,2-Tetrachloroethane	0.706	0.028	mg/kg dry	0.8699	ND	81.2	29.5-139	3.24	20	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605028 - EPA 3550B

Matrix Spike Dup (K605028-MSD1)

Source: K162204-08

Prepared: 05/26/2016 Analyzed: 05/26/2016 15:40

1,1,2-Trichloroethane	0.749	0.028	mg/kg dry	0.8699	ND	86.1	56.2-134	0.669	20	
1,1-Dichloroethane	0.810	0.028	mg/kg dry	0.8699	ND	93.1	53.1-134	3.23	20	
1,1-Dichloroethene	0.980	0.028	mg/kg dry	0.8699	ND	113	20.5-183	4.32	20	
1,2,3-Trichlorobenzene	0.756	0.028	mg/kg dry	0.8699	ND	86.9	52-117	3.60	20	
1,2,4-Trichlorobenzene	0.759	0.028	mg/kg dry	0.8699	ND	87.2	58.7-116	3.12	20	
1,2,4-Trimethylbenzene	0.701	0.028	mg/kg dry	0.8699	ND	80.5	66.1-129	5.81	20	
1,2-Dichlorobenzene	0.747	0.028	mg/kg dry	0.8699	ND	85.9	71.9-113	0.196	20	
1,2-Dichloroethane	0.758	0.028	mg/kg dry	0.8699	ND	87.1	56.5-128	1.66	20	
1,3,5-Trimethylbenzene	0.700	0.028	mg/kg dry	0.8699	ND	80.5	65.4-133	1.34	20	
1,3-Dichlorobenzene	0.758	0.028	mg/kg dry	0.8699	ND	87.1	62.7-125	0.393	20	
1,4-Dichlorobenzene	0.765	0.028	mg/kg dry	0.8699	ND	87.9	61.9-122	1.07	20	
2-Chlorotoluene	0.683	0.028	mg/kg dry	0.8699	ND	78.5	67.4-133	3.33	20	
4-Chlorotoluene	0.679	0.028	mg/kg dry	0.8699	ND	78.0	63.3-132	4.74	20	
Benzene	0.754	0.028	mg/kg dry	0.8699	ND	86.6	55.4-126	3.24	20	
Carbon tetrachloride	0.823	0.028	mg/kg dry	0.8699	ND	94.5	44.2-136	2.59	20	
Chlorobenzene	0.750	0.028	mg/kg dry	0.8699	ND	86.2	69.8-113	1.18	20	
Chloroform	0.757	0.028	mg/kg dry	0.8699	ND	87.0	60.6-127	2.16	20	
Chloromethane	1.33	0.056	mg/kg dry	0.8699	ND	153	13.4-199	4.54	20	
cis-1,2-Dichloroethene	0.775	0.028	mg/kg dry	0.8699	ND	89.1	27.4-176	3.78	20	
Ethylbenzene	0.752	0.028	mg/kg dry	0.8699	ND	86.4	71.8-116	8.69	20	
Isopropylbenzene	0.772	0.028	mg/kg dry	0.8699	ND	88.7	74.2-123	1.75	20	
m,p-Xylene	1.53	0.056	mg/kg dry	1.740	ND	87.9	71.1-111	2.67	20	
Methylene chloride	0.751	0.11	mg/kg dry	0.8699	ND	86.3	67.2-127	1.43	20	
Naphthalene	0.709	0.028	mg/kg dry	0.8699	ND	81.5	51.2-119	1.59	20	
n-Butyl Benzene	0.707	0.028	mg/kg dry	0.8699	ND	81.3	70.8-124	11.6	20	
n-Propyl Benzene	0.690	0.028	mg/kg dry	0.8699	ND	79.3	64.2-140	4.05	20	
o-Xylene	0.760	0.028	mg/kg dry	0.8699	ND	87.4	68.4-113	1.07	20	
p-Isopropyltoluene	0.686	0.028	mg/kg dry	0.8699	ND	78.8	69.8-128	2.55	20	
sec-Butyl Benzene	0.698	0.028	mg/kg dry	0.8699	ND	80.2	68.2-129	3.64	20	
Styrene	0.752	0.028	mg/kg dry	0.8699	ND	86.5	70.5-119	7.53	20	
tert-Butylbenzene	0.699	0.028	mg/kg dry	0.8699	ND	80.4	68.3-131	17.3	20	
Tetrachloroethene	0.822	0.028	mg/kg dry	0.8699	ND	94.5	35.4-165	1.09	20	
Toluene	0.739	0.028	mg/kg dry	0.8699	ND	84.9	59.9-117	1.56	20	
trans-1,2-Dichloroethene	0.867	0.028	mg/kg dry	0.8699	ND	99.6	34.4-160	0.772	20	
Trichloroethene	0.788	0.028	mg/kg dry	0.8699	ND	90.6	27.7-173	2.46	20	
Vinyl chloride	1.19	0.028	mg/kg dry	0.8699	ND	136	17.8-199	2.42	20	
Surrogate: 1-Bromo-2-chloroethane	0.735		mg/kg dry	0.8699		84.5	44.1-130			
Surrogate: Toluene-d8	0.738		mg/kg dry	0.8699		84.9	42-136			
Surrogate: 4-Bromofluorobenzene	0.785		mg/kg dry	0.8699		90.2	54.2-145			



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605031 - EPA 3550B

Blank (K605031-BLK1)

Prepared: 05/26/2016 Analyzed: 05/26/2016 17:48

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.447		mg/kg wet	0.5000		89.4	44.1-130			
Surrogate: Toluene-d8	0.455		mg/kg wet	0.5000		91.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.483		mg/kg wet	0.5000		96.7	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605031 - EPA 3550B

LCS (K605031-BS1)

Prepared: 05/26/2016 Analyzed: 05/26/2016 16:06

1,1,1-Trichloroethane	0.514	0.025	mg/kg wet	0.5000		103	59.6-143			
1,1,2,2-Tetrachloroethane	0.455	0.025	mg/kg wet	0.5000		91.0	61.1-133			
1,1,2-Trichloroethane	0.459	0.025	mg/kg wet	0.5000		91.9	72.5-128			
1,1-Dichloroethane	0.504	0.025	mg/kg wet	0.5000		101	65-136			
1,1-Dichloroethene	0.633	0.025	mg/kg wet	0.5000		127	51.4-160			
1,2,3-Trichlorobenzene	0.427	0.025	mg/kg wet	0.5000		85.4	73.1-122			
1,2,4-Trichlorobenzene	0.451	0.025	mg/kg wet	0.5000		90.1	80.3-118			
1,2,4-Trimethylbenzene	0.508	0.025	mg/kg wet	0.5000		102	57.2-139			
1,2-Dichlorobenzene	0.490	0.025	mg/kg wet	0.5000		98.0	87.7-118			
1,2-Dichloroethane	0.467	0.025	mg/kg wet	0.5000		93.5	66.5-133			
1,3,5-Trimethylbenzene	0.509	0.025	mg/kg wet	0.5000		102	32-159			
1,3-Dichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	88.8-116			
1,4-Dichlorobenzene	0.518	0.025	mg/kg wet	0.5000		104	83.9-116			
2-Chlorotoluene	0.494	0.025	mg/kg wet	0.5000		98.8	87.3-130			
4-Chlorotoluene	0.485	0.025	mg/kg wet	0.5000		97.1	92.4-126			
Benzene	0.468	0.025	mg/kg wet	0.5000		93.6	67.1-128			
Carbon tetrachloride	0.514	0.025	mg/kg wet	0.5000		103	70.7-126			
Chlorobenzene	0.499	0.025	mg/kg wet	0.5000		99.8	83.1-114			
Chloroform	0.468	0.025	mg/kg wet	0.5000		93.5	73-127			
Chloromethane	0.907	0.050	mg/kg wet	0.5000		181	24.9-199			
cis-1,2-Dichloroethene	0.476	0.025	mg/kg wet	0.5000		95.2	67.7-129			
Ethylbenzene	0.503	0.025	mg/kg wet	0.5000		101	80.6-126			
Isopropylbenzene	0.494	0.025	mg/kg wet	0.5000		98.8	91.2-121			
m,p-Xylene	1.01	0.050	mg/kg wet	1.000		101	79-124			
Methylene chloride	0.483	0.10	mg/kg wet	0.5000		96.7	20-162			
Naphthalene	0.380	0.025	mg/kg wet	0.5000		75.9	64.2-125			
n-Butyl Benzene	0.488	0.025	mg/kg wet	0.5000		97.6	90.2-122			
n-Propyl Benzene	0.499	0.025	mg/kg wet	0.5000		99.8	84-139			
o-Xylene	0.512	0.025	mg/kg wet	0.5000		102	80.1-122			
p-Isopropyltoluene	0.487	0.025	mg/kg wet	0.5000		97.4	89-129			
sec-Butyl Benzene	0.496	0.025	mg/kg wet	0.5000		99.2	87.6-126			
Styrene	0.496	0.025	mg/kg wet	0.5000		99.1	82.8-116			
tert-Butylbenzene	0.511	0.025	mg/kg wet	0.5000		102	83.4-139			
Tetrachloroethene	0.561	0.025	mg/kg wet	0.5000		112	61.6-133			
Toluene	0.465	0.025	mg/kg wet	0.5000		93.1	65.2-134			
trans-1,2-Dichloroethene	0.543	0.025	mg/kg wet	0.5000		109	47.7-151			
Trichloroethene	0.500	0.025	mg/kg wet	0.5000		100	67.3-132			
Vinyl chloride	0.818	0.025	mg/kg wet	0.5000		164	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.465		mg/kg wet	0.5000		92.9	44.1-130			
Surrogate: Toluene-d8	0.460		mg/kg wet	0.5000		92.0	42-136			
Surrogate: 4-Bromofluorobenzene	0.484		mg/kg wet	0.5000		96.8	54.2-145			

Matrix Spike (K605031-MS1)

Source: K162204-19

Prepared: 05/26/2016 Analyzed: 05/26/2016 20:42

1,1,1-Trichloroethane	0.674	0.024	mg/kg dry	0.6297	ND	107	55.3-131			
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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605031 - EPA 3550B

Matrix Spike (K605031-MS1)	Source: K162204-19			Prepared: 05/26/2016 Analyzed: 05/26/2016 20:42						
1,1,2,2-Tetrachloroethane	0.701	0.024	mg/kg dry	0.6297	ND	111	29.5-139			
1,1,2-Trichloroethane	0.663	0.024	mg/kg dry	0.6297	ND	105	56.2-134			
1,1-Dichloroethane	0.728	0.024	mg/kg dry	0.6297	ND	116	53.1-134			
1,1-Dichloroethene	0.830	0.024	mg/kg dry	0.6297	ND	132	20.5-183			
1,2,3-Trichlorobenzene	0.746	0.024	mg/kg dry	0.6297	ND	118	52-117			M
1,2,4-Trichlorobenzene	0.727	0.024	mg/kg dry	0.6297	ND	115	58.7-116			
1,2,4-Trimethylbenzene	0.663	0.024	mg/kg dry	0.6297	ND	105	66.1-129			
1,2-Dichlorobenzene	0.684	0.024	mg/kg dry	0.6297	ND	109	71.9-113			
1,2-Dichloroethane	0.647	0.024	mg/kg dry	0.6297	ND	103	56.5-128			
1,3,5-Trimethylbenzene	0.649	0.024	mg/kg dry	0.6297	ND	103	65.4-133			
1,3-Dichlorobenzene	0.691	0.024	mg/kg dry	0.6297	ND	110	62.7-125			
1,4-Dichlorobenzene	0.667	0.024	mg/kg dry	0.6297	ND	106	61.9-122			
2-Chlorotoluene	0.653	0.024	mg/kg dry	0.6297	ND	104	67.4-133			
4-Chlorotoluene	0.682	0.024	mg/kg dry	0.6297	ND	108	63.3-132			
Benzene	0.731	0.024	mg/kg dry	0.6297	ND	116	55.4-126			
Carbon tetrachloride	0.691	0.024	mg/kg dry	0.6297	ND	110	44.2-136			
Chlorobenzene	0.725	0.024	mg/kg dry	0.6297	ND	115	69.8-113			M
Chloroform	0.668	0.024	mg/kg dry	0.6297	ND	106	60.6-127			
Chloromethane	1.27	0.047	mg/kg dry	0.6297	ND	202	13.4-199			M
cis-1,2-Dichloroethene	0.705	0.024	mg/kg dry	0.6297	ND	112	27.4-176			
Ethylbenzene	0.757	0.024	mg/kg dry	0.6297	ND	120	71.8-116			M
Isopropylbenzene	0.667	0.024	mg/kg dry	0.6297	ND	106	74.2-123			
m,p-Xylene	1.39	0.047	mg/kg dry	1.259	ND	110	71.1-111			
Methylene chloride	0.682	0.094	mg/kg dry	0.6297	ND	108	67.2-127			
Naphthalene	0.755	0.024	mg/kg dry	0.6297	ND	120	51.2-119			M
n-Butyl Benzene	0.668	0.024	mg/kg dry	0.6297	ND	106	70.8-124			
n-Propyl Benzene	0.646	0.024	mg/kg dry	0.6297	ND	103	64.2-140			
o-Xylene	0.690	0.024	mg/kg dry	0.6297	ND	110	68.4-113			
p-Isopropyltoluene	0.732	0.024	mg/kg dry	0.6297	ND	116	69.8-128			
sec-Butyl Benzene	0.682	0.024	mg/kg dry	0.6297	ND	108	68.2-129			
Styrene	0.741	0.024	mg/kg dry	0.6297	ND	118	70.5-119			
tert-Butylbenzene	0.684	0.024	mg/kg dry	0.6297	ND	109	68.3-131			
Tetrachloroethene	0.619	0.024	mg/kg dry	0.6297	ND	98.3	35.4-165			
Toluene	0.699	0.024	mg/kg dry	0.6297	ND	111	59.9-117			
trans-1,2-Dichloroethene	0.758	0.024	mg/kg dry	0.6297	ND	120	34.4-160			
Trichloroethene	0.694	0.024	mg/kg dry	0.6297	ND	110	27.7-173			
Vinyl chloride	1.16	0.024	mg/kg dry	0.6297	ND	184	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.725		mg/kg dry	0.6297		115	44.1-130			
Surrogate: Toluene-d8	0.690		mg/kg dry	0.6297		110	42-136			
Surrogate: 4-Bromofluorobenzene	0.693		mg/kg dry	0.6297		110	54.2-145			

Matrix Spike Dup (K605031-MSD1)	Source: K162204-19			Prepared: 05/26/2016 Analyzed: 05/26/2016 21:09						
1,1,1-Trichloroethane	0.697	0.029	mg/kg dry	0.7782	ND	89.5	55.3-131	17.8	20	
1,1,2,2-Tetrachloroethane	0.721	0.029	mg/kg dry	0.7782	ND	92.6	29.5-139	18.3	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605031 - EPA 3550B

Matrix Spike Dup (K605031-MSD1)

Source: K162204-19

Prepared: 05/26/2016 Analyzed: 05/26/2016 21:09

1,1,2-Trichloroethane	0.745	0.029	mg/kg dry	0.7782	ND	95.8	56.2-134	9.50	20	
1,1-Dichloroethane	0.761	0.029	mg/kg dry	0.7782	ND	97.8	53.1-134	16.7	20	
1,1-Dichloroethene	0.778	0.029	mg/kg dry	0.7782	ND	99.9	20.5-183	27.5	20	X
1,2,3-Trichlorobenzene	0.655	0.029	mg/kg dry	0.7782	ND	84.1	52-117	33.8	20	X
1,2,4-Trichlorobenzene	0.687	0.029	mg/kg dry	0.7782	ND	88.3	58.7-116	26.6	20	X
1,2,4-Trimethylbenzene	0.850	0.029	mg/kg dry	0.7782	ND	109	66.1-129	3.79	20	
1,2-Dichlorobenzene	0.706	0.029	mg/kg dry	0.7782	ND	90.7	71.9-113	18.0	20	
1,2-Dichloroethane	0.668	0.029	mg/kg dry	0.7782	ND	85.8	56.5-128	17.9	20	
1,3,5-Trimethylbenzene	0.766	0.029	mg/kg dry	0.7782	ND	98.4	65.4-133	4.64	20	
1,3-Dichlorobenzene	0.734	0.029	mg/kg dry	0.7782	ND	94.3	62.7-125	15.1	20	
1,4-Dichlorobenzene	0.726	0.029	mg/kg dry	0.7782	ND	93.3	61.9-122	12.7	20	
2-Chlorotoluene	0.739	0.029	mg/kg dry	0.7782	ND	94.9	67.4-133	8.87	20	
4-Chlorotoluene	0.744	0.029	mg/kg dry	0.7782	ND	95.6	63.3-132	12.4	20	
Benzene	0.747	0.029	mg/kg dry	0.7782	ND	96.0	55.4-126	18.9	20	
Carbon tetrachloride	0.716	0.029	mg/kg dry	0.7782	ND	92.0	44.2-136	17.6	20	
Chlorobenzene	0.754	0.029	mg/kg dry	0.7782	ND	96.9	69.8-113	17.2	20	
Chloroform	0.698	0.029	mg/kg dry	0.7782	ND	89.8	60.6-127	16.6	20	
Chloromethane	1.35	0.058	mg/kg dry	0.7782	ND	173	13.4-199	15.4	20	
cis-1,2-Dichloroethene	0.748	0.029	mg/kg dry	0.7782	ND	96.1	27.4-176	15.3	20	
Ethylbenzene	0.824	0.029	mg/kg dry	0.7782	ND	106	71.8-116	12.6	20	
Isopropylbenzene	0.760	0.029	mg/kg dry	0.7782	ND	97.7	74.2-123	8.15	20	
m,p-Xylene	1.47	0.058	mg/kg dry	1.556	ND	94.6	71.1-111	15.3	20	
Methylene chloride	0.690	0.12	mg/kg dry	0.7782	ND	88.7	67.2-127	19.8	20	
Naphthalene	0.638	0.029	mg/kg dry	0.7782	ND	81.9	51.2-119	37.6	20	X
n-Butyl Benzene	0.742	0.029	mg/kg dry	0.7782	ND	95.4	70.8-124	10.6	20	
n-Propyl Benzene	0.780	0.029	mg/kg dry	0.7782	ND	100	64.2-140	2.34	20	
o-Xylene	0.746	0.029	mg/kg dry	0.7782	ND	95.8	68.4-113	13.4	20	
p-Isopropyltoluene	0.764	0.029	mg/kg dry	0.7782	ND	98.2	69.8-128	16.7	20	
sec-Butyl Benzene	0.781	0.029	mg/kg dry	0.7782	ND	100	68.2-129	7.57	20	
Styrene	0.769	0.029	mg/kg dry	0.7782	ND	98.8	70.5-119	17.4	20	
tert-Butylbenzene	0.747	0.029	mg/kg dry	0.7782	ND	96.0	68.3-131	12.4	20	
Tetrachloroethene	0.639	0.029	mg/kg dry	0.7782	ND	82.2	35.4-165	17.9	20	
Toluene	0.784	0.029	mg/kg dry	0.7782	ND	101	59.9-117	9.74	20	
trans-1,2-Dichloroethene	0.753	0.029	mg/kg dry	0.7782	ND	96.7	34.4-160	21.8	20	X
Trichloroethene	0.734	0.029	mg/kg dry	0.7782	ND	94.3	27.7-173	15.6	20	
Vinyl chloride	1.05	0.029	mg/kg dry	0.7782	ND	135	17.8-199	30.6	20	X
Surrogate: 1-Bromo-2-chloroethane	0.703		mg/kg dry	0.7782		90.4	44.1-130			
Surrogate: Toluene-d8	0.758		mg/kg dry	0.7782		97.4	42-136			
Surrogate: 4-Bromofluorobenzene	0.673		mg/kg dry	0.7782		86.5	54.2-145			



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Classical Chemistry Parameters - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K605003 - % Solids

Duplicate (K605003-DUP1)		Source: K162001-11		Prepared: 05/10/2016 Analyzed: 05/10/2016 16:17		
% Solids	74.8	0.00	% by Weight	74.4	0.533	20

Batch K605004 - % Solids

Duplicate (K605004-DUP1)		Source: K162002-12		Prepared: 05/11/2016 Analyzed: 05/12/2016 08:14		
% Solids	74.0	0.00	% by Weight	73.9	0.160	20

Batch K605006 - % Solids

Duplicate (K605006-DUP1)		Source: K162003-12		Prepared: 05/12/2016 Analyzed: 05/13/2016 08:33		
% Solids	68.8	0.00	% by Weight	69.5	1.11	20

Batch K605009 - % Solids

Duplicate (K605009-DUP1)		Source: K162101-07		Prepared: 05/16/2016 Analyzed: 05/17/2016 08:19		
% Solids	67.3	0.00	% by Weight	66.7	0.926	20

Batch K605011 - % Solids

Duplicate (K605011-DUP1)		Source: K162102-08		Prepared: 05/16/2016 Analyzed: 05/17/2016 08:21		
% Solids	68.5	0.00	% by Weight	68.4	0.283	20

Batch K605013 - % Solids

Duplicate (K605013-DUP1)		Source: K162103-11		Prepared: 05/17/2016 Analyzed: 05/18/2016 08:27		
% Solids	64.4	0.00	% by Weight	65.2	1.20	20



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

Classical Chemistry Parameters - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch K605015 - % Solids										
Duplicate (K605015-DUP1)		Source: K162104-16			Prepared: 05/19/2016 Analyzed: 05/20/2016 13:10					
% Solids	81.5	0.00	% by Weight		82.1			0.677	20	
Batch K605017 - % Solids										
Duplicate (K605017-DUP1)		Source: K162105-16			Prepared: 05/20/2016 Analyzed: 05/21/2016 10:02					
% Solids	86.2	0.00	% by Weight		85.8			0.457	20	
Batch K605019 - % Solids										
Duplicate (K605019-DUP1)		Source: K162106-13			Prepared: 05/21/2016 Analyzed: 05/22/2016 12:15					
% Solids	88.8	0.00	% by Weight		85.3			4.00	20	
Batch K605022 - % Solids										
Duplicate (K605022-DUP1)		Source: K162201-10			Prepared: 05/23/2016 Analyzed: 05/24/2016 08:28					
% Solids	88.6	0.00	% by Weight		88.9			0.320	20	
Batch K605024 - % Solids										
Duplicate (K605024-DUP1)		Source: K162202-01			Prepared: 05/24/2016 Analyzed: 05/25/2016 08:24					
% Solids	81.2	0.00	% by Weight		81.7			0.561	20	
Batch K605025 - % Solids										
Duplicate (K605025-DUP1)		Source: K162203-12			Prepared: 05/25/2016 Analyzed: 05/26/2016 10:28					
% Solids	89.4	0.00	% by Weight		88.6			0.844	20	



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

Classical Chemistry Parameters - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch K605029 - % Solids

Duplicate (K605029-DUP1)		Source: K162203-13		Prepared: 05/25/2016 Analyzed: 05/26/2016 10:33						
% Solids	83.0	0.00	% by Weight		82.1			1.07	20	

Batch K605030 - % Solids

Duplicate (K605030-DUP1)		Source: K162204-01		Prepared: 05/26/2016 Analyzed: 05/27/2016 08:06						
% Solids	83.1	0.00	% by Weight		83.5			0.515	20	

Batch K605032 - % Solids

Duplicate (K605032-DUP1)		Source: K162204-15		Prepared: 05/26/2016 Analyzed: 05/27/2016 08:09						
% Solids	84.0	0.00	% by Weight		83.9			0.0816	20	



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Project Number: 2754

Notes and Definitions

- X Precision for the matrix spike duplicate, laboratory control sample duplicate or lab duplicate was outside of control limits.
- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- LC Results may be biased low because of low continuing calibration verification (CCV).
- E1 Estimated value because of quality control sample exceedances.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference

Appendix C

Chain of Custody Information



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CHAIN OF CUSTODY

No. 4627

Page: 1 of 2

Lab Work Order #: **K162001**

Report To: **Steve Demus**

Company: **CH2M**

Project Number: _____ PO Number: _____

Project Name: **UPRR Freeman**

Project Location (City, State): **Freeman, WA**

Turn Around (check one): Normal Rush

If Rush, Report Due Date: **5-11-16**

Sampled By (Print): **Steve Demus**

Preservation Codes

Analyses Requested

A

Address 1: **999 W. Riverside, Ste 500**

Address 2: **Spokane, WA 99201**

E-mail Address: **sdemus@ch2m.com**

Invoice To: **UPRR**

Company: _____

Address 1: _____

Address 2: _____

Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time
	Date	Time											
MW3-SS-5	5-10-16	10:25	S	1								01	
MW3-SS-10		10:45										02	
MW3-SS-15		10:50										03	
MW3-SS-20		11:10										04	
MW3-SS-25		11:15										05	
MW3-SS-30		12:00										06	
MW3-SS-35		12:05										07	
MW3-SS-40		12:20										08	
MW3-SS-45		12:25										09	
MW3-SS-50		13:50										10	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*

Date: **5-10-16** Time: **14:25**

Received By: *[Signature]*

Date: **05/10/16** Time: **14:25**

Relinquished By: _____

Date: _____ Time: _____

Received By: _____

Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Shipped Via: _____ Receipt Temp: _____

Thermometer #/ Exp. Date: _____ Temp Blank: Y N



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CHAIN OF CUSTODY

No. 4630

Page: 1 of 2

Project Number:		PO Number:		Preservation Codes		Report To: Steve Demus			
Project Name: UPRR Freeman		Analyses Requested		Lab Work Order #: K162002		Company: CH2M			
Project Location (City, State): Freeman, WA		A		Address 1: 999 W. Riverside Ave, Ste 500		Address 2: Spokane, WA 99201			
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Matrix Total # of Containers SB00B		E-mail Address: sdemus@ch2m.com		Invoice To: UPRR			
If Rush, Report Due Date: 5-12-16				Company:		Address 1:		Address 2:	
Sampled By (Print): Steve Demus				Comments		Lab ID		Lab Receipt Time	
Sample Description				Collection Date		Collection Time			
SB01-SS-5		5-11-16		11:55		S 1		01	
SB01-SS-10				12:15				02	
SB01-SS-15				12:20				03	
SB01-SS-20				12:40				04 Lab QC	
SB01-SS-25				12:45				05	
SB01-SS-30				13:15				06	
SB01-SS-35				13:20				07	
SB01-SS-40				13:55				08	
SB01-SS-45				14:00				09	
SB01-SS-47				14:05				10	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i> Date: 5-11-16 Time: 14:52		Received By: <i>[Signature]</i> Date: 05/11/16 Time: 14:52			
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:		Date: Time:		Received By:		Date: Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4629

Page: 2 of 2

Lab Work Order #: K162002	Report To: Steve Demus
	Company: CH2M

Project Number:	PO Number:	Preservation Codes	Address 1: 999 W. Riverside Ave, Ste 500
Project Name: UPRR Freeman		Analyses Requested	Address 2: Spokane, WA
Project Location (City, State): Freeman, WA			E-mail Address: sdemus@ch2m.com

Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush	Matrix	Total # of Containers	82608	A						Invoice To: UPRR
If Rush, Report Due Date: 5-11-10										Company:
Sampled By (Print): Steve Demus										Address 1:

Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time
	Date	Time											
FD1-SS	5-11-10	0800	S	1	↓							11	
FD2-SS	↓	0900	↓	↓	↓							12	

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:	Relinquished By: <i>[Signature]</i>	Date: 5-11-10	Time: 14:52	Received By: <i>[Signature]</i>	Date: 05/11/10	Time: 1452
			Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via:	Receipt Temp:	Thermometer #/ Exp. Date:	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 4632

Page: 1 of 2

Project Number:		PO Number:		Preservation Codes				Report To: <u>Steve Demus</u>	
Project Name: <u>UPRR Freeman</u>		Analyses Requested				Company: <u>CH2M</u>			
Project Location (City, State): <u>Freeman, WA</u>		A						Address 1: <u>999 W. Riverside Ave, Ste 500</u>	
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Matrix		Total # of Containers		8260B		Address 2: <u>Spokane, WA 99201</u>	
If Rush, Report Due Date: <u>5-13-16</u>								E-mail Address: <u>sdemus@ch2m.com</u>	
Sampled By (Print): <u>Steve Demus</u>								Invoice To: <u>UPRR</u>	
								Company:	
								Address 1:	
								Address 2:	
								Comments	
								Lab ID	
								Lab Receipt Time	
Sample Description		Collection							
		Date	Time						
<u>SB-SS SBO2-SS-5</u>		<u>5-12-16</u>	<u>9:25</u>	<u>5</u>	<u>1</u>			<u>01</u>	
<u>SBO2-SS-10</u>			<u>9:40</u>					<u>02</u>	
<u>SBO2-SS-15</u>			<u>9:45</u>					<u>03</u>	
<u>SBO2-SS-20</u>			<u>10:00</u>	<u>3</u>		<u>Lab QC</u>		<u>04</u>	
<u>SBO2-SS-25</u>			<u>10:05</u>	<u>1</u>				<u>05</u>	
<u>SBO2-SS-30</u>			<u>10:40</u>					<u>06</u>	
<u>SBO2-SS-35</u>			<u>10:45</u>					<u>07</u>	
<u>SBO2-SS-40</u>			<u>11:00</u>					<u>08</u>	
<u>SBO2-SS-45</u>			<u>11:05</u>					<u>09</u>	
<u>SBO2-SS-50</u>			<u>11:35</u>					<u>10</u>	
Preservation Codes		Other Comments:		Relinquished By: <u>[Signature]</u>		Date: <u>5-12-16</u>	Time: <u>12:00</u>	Received By: <u>[Signature]</u>	
A=None B=HCL C=H ₂ SO ₄				Relinquished By:		Date:	Time:	Received By:	
D=HNO ₃ E=EnCore F=Methanol						Date:	Time:	Received By:	
G=NaOH O=Other (Indicate)						Date:	Time:	Received By:	
Matrix Codes				Custody Seal:		Shipped Via:		Receipt Temp:	
A=Air S=Soil W=Water O=Other				<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Thermometer #/ Exp. Date:	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4631

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Lab Work Order #: K162003				Report To: Steve Demus							
Preservation Codes				Company: CH2M							
Analyses Requested				Address 1: 999 W. Riverside, Ste 500							
A				Address 2: Spokane, WA 99201							
				E-mail Address: sdemus@ch2m.com							
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush				Invoice To: UPRR							
If Rush, Report Due Date: 5-13-16				Company: /							
Sampled By (Print): Steve Demus				Address 1: /							
				Address 2: /							
Sample Description	Collection		Matrix	Total # of Containers				Comments	Lab ID	Lab Receipt Time	
	Date	Time									
S602-SS-55	5-12-16	11:40	S	1					11		
FD3-SS	↓	0900	S	1					12		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By:		Date: 5-12-16 Time: 12:00		Received By:		Date: 05/12/16 Time: 1200	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date: Time:		Received By:		Date: Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4636

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Project Number:		PO Number:		Lab Work Order #: K162004		Report To: Steve Demus					
Project Name: UPRR Freeman		Preservation Codes		Company: CH2M		Address 1: 999 W Riverside Ave, Ste 500					
Project Location (City, State): Freeman, WA		Analyses Requested		Address 2: Spokane, WA 99201		E-mail Address: sdemus@ch2m.com					
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Matrix Total # of Containers 8160B	A				Invoice To: UPRR				
If Rush, Report Due Date: 5-13-16							Company:				
Sampled By (Print): Steve Demus							Address 1:				
							Address 2:				
Sample Description	Collection		Matrix	Total # of Containers			Comments	Lab ID	Lab Receipt Time		
	Date	Time									
SB02-SS-60	5-12-16	13:35	S	1				01			
SB02-SS-65	↓	13:40	↓	↓				02			
SB02-SS-70	↓	14:21	↓	↓				03			
SB02-SS-75	↓	14:25	↓	↓				04			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: Date: 5-12-16 Time: 16:00		Received By: Date: 05/13/16 Time: 0815					
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4634

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Project Number:		PO Number:		Preservation Codes		Report To: Steve Demus		
Project Name: UPRR Freeman		Project Location (City, State): Freeman, WA		Analyses Requested: A		Company: CH2M		
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		If Rush, Report Due Date: 5-14-16		Sampled By (Print): Steve Demus		Address 1: 999 W. Riverside Ave., Ste 500		
Sample Description		Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time
		Date	Time					
SB03-SS-05		5-13-16	13:40	S	1		01	
SB03-SS-10			14:10				02	
SB03-SS-15			14:15				03	
SB03-SS-20			14:25				04	
SB03-SS-25			14:30				05	
SB03-SS-30			14:50				06	
SB03-SS-35			14:55		3	Lab QC	07	
SB03-SS-40 SB03-SS-40			15:20		1		08	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: <i>[Signature]</i> Date: 5-13-16 Time: 10:25 Relinquished By: _____ Date: _____ Time: _____		Received By: <i>[Signature]</i> Date: 5/13/16 Time: 16:30 Received By: _____ Date: _____ Time: _____		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: _____ Receipt Temp: _____ Thermometer #/ Exp. Date: _____		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 4635

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Lab Work Order #: K162102		Report To: Steve Demus			
Preservation Codes		Company: CH2M			
Analyses Requested		Address 1: 999 W. Riverside Ave, Ste 500			
Project Number: _____ PO Number: _____		Address 2: Spokane, WA 99201			
Project Name: UPRR Freeman		E-mail Address: sdemus@ch2m.com			
Project Location (City, State): Freeman, WA		Invoice To: UPRR			
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Company:			
If Rush, Report Due Date: 5-17-16		Address 1:			
Sampled By (Print): David Butler		Address 2:			
Sample Description		Matrix			
		Total # of Containers			
Collection		B260B			
Date	Time				
SB04-55-05	5/16/16 13:10			S 1 X	
SB04-55-10	13:30			S 1 X	
SB04-55-15	13:35			S 1 X	
SB04-55-20	14:00			S 1 X	
SB04-55-25	14:05			S 1 X	
SB04-55-30	14:20			S 1 X	
SB04-55-35	14:25			S 1 X	
SB04-55-40	14:45			S 3 X	
FD4-55	5/16/16 15:00	S 1 X			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: Date: 5-16-16 Time: 15:20 Received By: Date: 05/16/16 Time: 1520			
Relinquished By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact Shipped Via: _____ Receipt Temp: _____ Thermometer #/ Exp. Date: _____ Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 4637

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Lab Work Order #: K162103				Report To: Steve Demus			
Preservation Codes				Company: CH2M			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
				Comments		Lab ID	Lab Receipt Time

Project Number:		PO Number:		Matrix Total # of Containers 8260B	8260B	Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		SB05-55-05	SB05-55-10	SB05-55-15	SB05-55-20	SB05-55-25	SB05-55-30	SB05-55-35	SB05-55-40	SB05-55-45	SB05-55-50																				
Project Name: UPRR Freeman RI																																					
Project Location (City, State): Freeman, WA																																					
If Rush, Report Due Date: 24 hr																																					
Sampled By (Print): Reuben Greer, David Butler																																					
Collection Date		Collection Time																																			
5/17/16	11:30	S	1	X																																	
	11:35	S	1	X																																	
	11:40	S	1	X																																	
	12:05	S	1	X																																	
	12:10	S	3	X									MS/MSD																								
	12:30	S	1	X																																	
	12:35	S	1	X																																	
	13:30	S	1	X																																	
	13:35	S	1	X																																	
	14:10	S	1	X																																	

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: 		Relinquished By: <i>[Signature]</i> Date: 5-17-16	Time: 345	Received By: <i>[Signature]</i> Date: 05/17/16	Time: 1545		
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:	Receipt Temp:	Thermometer #/ Exp. Date:	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 4638

Page: 2 of 2

Project Number:		PO Number:		Preservation Codes				Report To: Steve Demas				
Project Name: UPRR Freeman RI		Analyses Requested				Company: CH2M						
Project Location (City, State): Freeman, WA								Address 1:				
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush								Address 2:				
If Rush, Report Due Date: 24 hr								E-mail Address:				
Sampled By (Print): Reuben Greer, David Butler								Invoice To:				
								Company:				
								Address 1:				
								Address 2:				
Sample Description	Collection		Matrix	Total # of Containers	8260B					Comments	Lab ID	Lab Receipt Time
	Date	Time										
FD5-55	5/17/16	13:10	S	1	X						11	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: Relinquished By: <i>Reuben Greer</i> Relinquished By:		Date: 5-17-16 Time: 1545		Received By: <i>[Signature]</i> Received By:		Date: 05/17/16 Time: 1545				
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

Rev. 12/15



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CHAIN OF CUSTODY

No. 4643

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Lab Work Order #: K162104				Report To: Steve Demus								
				Company: CH2M								
Project Number: _____ PO Number: _____				Preservation Codes								
Project Name: UPRR Freeman RI				Analyses Requested								
Project Location (City, State): Freeman, WA				Address 1:								
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush				Address 2:								
If Rush, Report Due Date: 24 hr				E-mail Address:								
Sampled By (Print): Reuben Greer, David Butler				Invoice To:								
				Company:								
				Address 1:								
				Address 2:								
Sample Description		Collection		Matrix	Total # of Containers	8260B	Comments	Lab ID	Lab Receipt Time			
		Date	Time									
SB06-55-05		5/18/16	14:55	S	1	X		01				
SB06-55-10			15:10	S	1	X		02				
SB06-55-15			15:15	S	1	X		03				
SB06-55-21			15:25	S	1	X		04				
SB06-55-25			16:10	S	1	X		05				
SB06-55-30			16:35	S	1	X		06				
SB06-55-35			16:40	S	1	X		07				
SB06-55-40			17:05	S	1	X		08				
SB06-55-45			17:15	S	3	X	MS/ASBB MSD	09				
SB06-55-50			17:50	S	1	X		10				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:				Relinquished By: David Butler		Date: 5/19/16	Time: 08:45	Received By: <i>[Signature]</i>	Date: 05/19/16	Time: 08:45
						Relinquished By:		Date:	Time:	Received By:	Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 4639

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Lab Work Order #: *V-162604*

Report To: *Steve Demus*
 Company: *CH2M*

Project Number: _____ PO Number: _____ Preservation Codes _____ Address 1: _____
 Project Name: *UPRR Freeman RI* Analyses Requested _____ Address 2: _____
 Project Location (City, State): *Freeman, WA* E-mail Address: _____

Turn Around (check one): Normal Rush
 If Rush, Report Due Date: *24 hr*
 Sampled By (Print): *Reuben Greer, David Butler*

Matrix _____ Total # of Containers *8260B*

Invoice To: _____
 Company: _____
 Address 1: _____
 Address 2: _____

Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time
	Date	Time												
<i>SBO6-SS-56</i>	<i>5/18/16</i>	<i>17:55</i>	<i>S</i>	<i>1</i>	<i>X</i>								<i>11</i>	
<i>FD6-SS</i>	<i>L</i>	<i>17:25</i>	<i>S</i>	<i>1</i>	<i>X</i>								<i>12</i>	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *David Butler*
 Relinquished By: _____
 Custody Seal: NA Intact Not Intact

Date: *5/19/16* Time: *08:45*
 Date: _____ Time: _____

Received By: *[Signature]*
 Received By: _____

Date: *05/19/16* Time: *0845*
 Date: _____ Time: _____

Shipped Via: _____ Receipt Temp: _____ Thermometer #/ Exp. Date: _____ Temp Blank: Y N



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CHAIN OF CUSTODY

No. 4640

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Lab Work Order #: K162104	Report To: Steve Demus
	Company: CH2M

Project Number:	PO Number:	Preservation Codes	Address 1:
Project Name: UPRR Freeman RI		Analyses Requested	Address 2:
Project Location (City, State): Freeman, WA			E-mail Address:

Turn Around (check one): Normal Rush

If Rush, Report Due Date: **24 hr**

Sampled By (Print): **Reuben Greer, David Butler**

Sample Description	Collection		Matrix	Total # of Containers									Comments	Lab ID	Lab Receipt Time
	Date	Time													
SBO6-55-61	5/19/16	09:45	S	1	X									13	
SBO6-55-65		09:20	S	1	X									14	
SBO6-55-70		10:05	S	1	X									15	
SBO6-55-75		10:10	S	1	X									16	

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:	Relinquished By: <i>[Signature]</i>	Date: 5/19/16	Time: 15:00	Received By: <i>[Signature]</i>	Date: 05/19/16	Time: 1500
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via:	Receipt Temp:	Thermometer #/ Exp. Date:	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4641

Page: 1 of 2

Lab Work Order #: K 162105				Report To: Steve Demus												
				Company: CH2M												
Project Number: _____ PO Number: _____				Preservation Codes												
Project Name: UPRR Freeman RI				Analyses Requested												
Project Location (City, State): Freeman, WA				Address 1:												
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush				Address 2:												
If Rush, Report Due Date: 24 hr				E-mail Address:												
Sampled By (Print): Steve Demus, Reuben Greer, David Butler				Invoice To:												
				Company:												
				Address 1:												
				Address 2:												
Sample Description		Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time	
		Date	Time													
SB07-55-05		5/30/16	9:25	S	1	X										
SB07-55-10			9:58	S	1	X										
SB07-55-15			10:02	S	1	X										
SB07-55-20			10:20	S	1	X										
SB07-55-25			10:25	S	1	X										
SB07-55-30			10:50	S	1	X										
SB07-55-35			10:55	S	1	X										
SB07-55-40			11:20	S	3	X							MS/MSD			
SB07-55-45			11:25	S	1	X										
SB07-55-50			11:58	S	1	X										
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: Reuben Greer Date: 5/20/16 Time: 1400		Received By: [Signature] Date: 05/20/16 Time: 1400										
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N						



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CHAIN OF CUSTODY

No. 4642

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Project Number:		PO Number:		Preservation Codes		Report To: Steve Demus			
Project Name: UPR R Freeman RI		Analyses Requested		Address 1:		Company: CH2M			
Project Location (City, State): Freeman, WA		E-mail Address:		Address 2:		Invoice To:			
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Matrix		Total # of Containers		Company:			
If Rush, Report Due Date: 24 hr		8260B				Address 1:			
Sampled By (Print): Steve Demus, Reuben Greer, David Butler						Address 2:			
Sample Description		Collection				Comments		Lab ID	Lab Receipt Time
		Date Time							
SB07-55-55		5/20/16 11:45		S 1 X				11	
SB07-55-60		12:05		S 1 X				12	
SB07-55-65		12:10		S 1 X				13	
FD7-55		12:00		S 1 X				14	
SB07-55-70		12:50		S 1 X				15	
SB07-55-75		12:55		S 1 X				16	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: <i>Reuben Greer</i> Date: 5/20/16 Time: 1400 Relinquished By:		Received By: <i>[Signature]</i> Date: 05/20/16 Time: 1400 Received By:		Date: 05/20/16 Time: 1400	Date: Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4644

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Project Number: 661508		PO Number:		Lab Work Order #: K162106		Report To: Steve Demus					
Project Name: UPRR Freeman RI		Preservation Codes		Analyses Requested		Company: CH2M					
Project Location (City, State): Freeman, WA		Address 1:		Address 2:		E-mail Address:					
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Matrix	Total # of Containers	8260B	Invoice To:						
If Rush, Report Due Date: 24 hr					Company:						
Sampled By (Print): Reuben Greer, David Butler					Address 1:						
		Address 2:			Comments						
Sample Description		Collection		Matrix	Total # of Containers	8260B	Lab ID	Lab Receipt Time			
	Date	Time									
MW5-55-05	5/20/16	16:10	S	1	X		01				
MW5-55-10		16:30	S	1	X		02				
MW5-55-15		16:35	S	1	X		03				
MW5-55-20		16:45	S	1	X		04				
MW5-55-25		16:50	S	1	X		05				
MW5-55-27		16:55	S	1	X		06				
MW5-55-30		17:25	S	1	X		07				
MW5-55-35		17:30	S	1	X		08				
MW5-55-40		17:45	S	1	X		09				
MW5-55-45		17:50	S	3	X	MS/MSD	10				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: Reuben Greer Relinquished By:		Date: 5/20/16 Date:	Time: 1845 Time:	Received By: <i>[Signature]</i> Received By:	Date: 05/21/16 Date:	Time: 750 Time:			
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4646

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Project Number: 661508		PO Number:		Preservation Codes		Report To: Steve Demus							
Project Name: UPRR Freeman RI		Analyses Requested		Lab Work Order #: K162201		Company: CH2M							
Project Location (City, State): Freemans, WA		Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Address 1:		Address 2:							
If Rush, Report Due Date: 24 hr		Matrix Total # of Containers 8260B		Address 2:		E-mail Address:							
Sampled By (Print): David Butler, Nicole Badon				Invoice To:		Company:		Address 1:					
Sample Description				Collection		Address 2:		Address 2:					
		Date		Time		Comments		Lab ID		Lab Receipt Time			
SB08-55-05		5/23/16		09:55		S		1		X			
SB08-55-10				10:15				1		X			
SB08-55-15				10:20				1		X			
SB08-55-20				10:45				1		X			
SB08-55-25				10:50				1		X			
SB08-55-30				11:10				1		X			
SB08-55-35				11:15				1		X			
SB08-55-40				11:45				1		X			
SB08-55-45				11:50				1		X			
SB08-55-50				12:15				3		X			
										MS/MSD			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <i>[Signature]</i> Relinquished By:		Date: 5/23/16 Date:		Time: 14:00 Time:		Received By: <i>[Signature]</i> Received By:		Date: 05/23/16 Date:		Time: 14:00 Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 4647

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Project Number: 661508		PO Number:		Preservation Codes				Report To: Steve Demus					
Project Name: UPRR Freeman RI		Analyses Requested				Company: CH2M							
Project Location (City, State): Freeman, WA						Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush						Address 2:							
If Rush, Report Due Date: 24 hr						E-mail Address:							
Sampled By (Print): David Butler, Nicole Baden						Invoice To:							
						Company:							
						Address 1:							
						Address 2:							
								Lab ID	Lab Receipt Time				
Sample Description		Collection Date Time		Matrix	Total # of Containers	Comments							
FD9-55		5/23/16 13:00		S	1	X		7L					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <i>[Signature]</i> Relinquished By:		Date: 5/23/16 Date:		Time: 14:00 Time:		Received By: <i>[Signature]</i> Received By:		Date: 05/23/16 Date:		Time: 14:00 Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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Project Number: 661508		PO Number:		Lab Work Order #: K 162202		Report To: Steve Demms							
Project Name: UPRR Freeman RT		Preservation Codes		Analyses Requested		Company: CH2M							
Project Location (City, State): Freeman, WA		Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		E-mail Address:		Invoice To:							
If Rush, Report Due Date: 24 hr		Matrix	Total # of Containers	Address 1:		Company:							
Sampled By (Print): David Butler, Nicole Badon				Address 2:		Address 1:		Address 2:					
Sample Description		Collection		8260 B	X	MS/MSD	Lab ID	Lab Receipt Time					
	Date	Time											
SB09-55-05	5/23/16	14:20	5						1			01	
SB09-55-10		14:35							3			02	
SB09-55-15		14:40							1			03	
SB09-55-20		15:00							1			04	
SB09-55-25		15:05							1			05	
SB09-55-30		15:20							1			06	
SB09-55-35		15:25							1			07	
SB09-55-39		15:45							1			08	
FD10-55		17:00		1			09						
SB10-55-05	5/24/16	08:10		1			10						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>David Butler</i> Date: 5/24/16 Time: 11:00		Received By: <i>Nicole Badon</i> Date: 05/24/16 Time: 11:00							
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

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Project Number: 661508		PO Number:		Lab Work Order #: K12^{MC} K162202		Report To: Steve Demus							
Project Name: UPRR Freeman RI		Preservation Codes		Analyses Requested		Company: CH2M							
Project Location (City, State): Freeman, WA		Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Invoice To:		Address 1:							
If Rush, Report Due Date: 24hr		Sampled By (Print): David Butler, Nicole Badon		Company:		Address 2:							
Sample Description				Address 1:		Address 2:		E-mail Address:					
		Collection		Matrix Total # of Containers 8260B		Comments		Lab ID	Lab Receipt Time				
		Date											
		Time											
SB10-55-10		5/24/16				08:30				11			
SB10-55-15						08:35				12			
SB10-55-20						09:00				13			
SB10-55-25						09:05				14			
SB10-55-30						09:25				15			
SB10-55-35						09:30				16			
SB10-55-40						09:50				17			
SB10-55-45				09:55		MS/MSD		18					
FD11-55		11:00						19					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: David Butler Relinquished By:		Date: 5/24/16 Date:		Time: 11:00 Time:		Received By: [Signature] Received By:		Date: 05/24/16 Date:		Time: 11:00 Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 4651

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Project Number: 661508			PO Number:			Lab Work Order #: K162203			Report To: Steve Demus																																																																																																																																																																						
Project Name: UPRR Freeman RI			Project Location (City, State): Freeman, WA			Preservation Codes			Company: CH2M																																																																																																																																																																						
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush			If Rush, Report Due Date: 24 hr			Analyses Requested			Address 1:																																																																																																																																																																						
Sampled By (Print): David Butler, Nicole Badon			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr><td>SB12-55-05</td><td>5/25/16</td><td>08:05</td><td>S</td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>01</td><td>1040</td></tr> <tr><td>SB12-54-10</td><td></td><td>08:15</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>02</td><td></td></tr> <tr><td>SB12-55-15</td><td></td><td>08:20</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>03</td><td></td></tr> <tr><td>SB12-55-20</td><td></td><td>08:45</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>04</td><td></td></tr> <tr><td>SB12-55-25</td><td></td><td>08:50</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>05</td><td></td></tr> <tr><td>SB12-55-30</td><td></td><td>09:05</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>06</td><td></td></tr> <tr><td>SB12-55-35</td><td></td><td>09:10</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>07</td><td></td></tr> <tr><td>SB12-55-40</td><td></td><td>09:25</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>08</td><td></td></tr> <tr><td>SB12-55-45</td><td></td><td>09:30</td><td></td><td>3</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td>MS/MSD</td><td>09</td><td></td></tr> <tr><td>SB12-55-50</td><td></td><td>09:45</td><td></td><td>1</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>10</td><td>✓</td></tr> </tbody> </table>			Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time	Date	Time	SB12-55-05	5/25/16	08:05	S	1	X								01	1040	SB12-54-10		08:15		1	X								02		SB12-55-15		08:20		1	X								03		SB12-55-20		08:45		1	X								04		SB12-55-25		08:50		1	X								05		SB12-55-30		09:05		1	X								06		SB12-55-35		09:10		1	X								07		SB12-55-40		09:25		1	X								08		SB12-55-45		09:30		3	X							MS/MSD	09		SB12-55-50		09:45		1	X								10	✓	Address 2:		
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CHAIN OF CUSTODY

No. 4649

Page: 2 of 2

Project Number: 661508		PO Number:		Lab Work Order #: R162203		Report To: Steve Demus					
Project Name: UPRR Freeman RI		Preservation Codes		Analyses Requested		Company: CH2M					
Project Location (City, State): Freeman, WA		Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		E-mail Address:		Address 1:					
If Rush, Report Due Date: 24hr		Sampled By (Print): David Butler, Nicole Badon		Invoice To:		Company:					
Sample Description		Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time			
		Date	Time								
SB12-55-55		5/25/16	09:50	S	1	X	11	1040			
FD12-55		L	09:20	S	1	X	12	1040			
<div style="font-size: 4em; transform: rotate(-45deg); opacity: 0.5;">/</div>											
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: <i>David Butler</i>		Date: 5/25/16	Time: 10:40	Received By: <i>[Signature]</i>	Date: 05/25/16	Time: 1040	
				Relinquished By:		Date:	Time:	Received By:	Date:	Time:	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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No. 4652

Page: 1 of: 2

Project Number: 661508 PO Number:				Lab Work Order #: K162203				Report To: Steve Demus				
Project Name: UPRR Freeman RI				Preservation Codes				Company: CH2M				
Project Location (City, State): Freeman, WA				Analyses Requested				Address 1:				
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush				Matrix Total # of Containers 8260 B				Address 2:				
If Rush, Report Due Date: 24hr								E-mail Address:				
Sampled By (Print): David Butler, Nicole Badon								Invoice To:				
								Company:				
				Address 1:				Address 2:				
								Comments		Lab ID	Lab Receipt Time	
Sample Description		Collection Date Time		Matrix	Total # of Containers							
SB11-55-05		5/25/16 12:20		S	1	X				13	1600	
SB11-55-10		12:40			1	X				14		
SB11-55-15		12:45			1	X				15		
SB11-55-20		13:15			1	X				16		
SB11-55-25		13:20			1	X				17		
SB11-55-30		13:40			1	X				18		
SB11-55-35		13:45			3	X		MS/MSD		19		
SB11-55-40		14:10			1	X				20		
SB11-55-45		14:15			1	X				21		
SB11-55-50		14:40			1	X				22		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>David Butler</i>		Date: 5/25/16	Time: 16:00	Received By: <i>[Signature]</i>		Date: 05/25/16	Time: <input checked="" type="checkbox"/>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 4653

Page: 2 of 2

Project Number: 661508		PO Number:		Lab Work Order #: K162203		Report To: Steve Demus							
Project Name: UPRR Freeman RI		Preservation Codes		Analyses Requested		Company: CH2M							
Project Location (City, State): Freeman, WA		Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		E-mail Address:		Address 1:							
If Rush, Report Due Date: 24hr		Sampled By (Print): David Butler, Nicole Badon		Invoice To:		Address 2:							
Sample Description		Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time					
		Date	Time										
SB11-55-55		5/25/16	14:45	S	1	X	23	1600					
SB11-55-60		I	15:30	I	1	X	24	I					
SB11-55-65		I	15:35	I	1	X	25	I					
FD13-55		I	14:10	I	1	X	26	I					
05/25/16													
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: Relinquished By: <i>[Signature]</i> Relinquished By:		Date: 5/25/16 Date:		Time: 16:00 Time:		Received By: <i>[Signature]</i> Received By:		Date: 05/25/16 Date:		Time: 1600 Time:	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 4654

Page: 1 of: 2

Project Number: 661508		PO Number:		Lab Work Order #: K162204		Report To: Steve Demus	
Project Name: UPRR Freeman RI		Preservation Codes		Analyses Requested		Company: CH2M	
Project Location (City, State): Freeman, WA		Address 1:		Address 2:		E-mail Address:	
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Invoice To:		Company:		Address 1:	
If Rush, Report Due Date: 24hr		Address 2:		Address 1:		Address 2:	
Sampled By (Print): David Butler, Nicole Badon		Comments		Lab ID		Lab Receipt Time	
Sample Description		Collection		Matrix		Total # of Containers	
		Date Time					
SB13-55-05		5/26/16 07:55		S		1	
SB13-55-10		08:10				1	
SB13-55-15		08:15				1	
SB13-55-20		09:00				1	
SB13-55-25		09:05				1	
SB13-55-30		09:20				1	
SB13-55-35		09:25				1	
SB13-55-40		09:40				3	
SB13-55-45		09:45				1	
SB13-55-50		10:00				1	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: David Butler Relinquished By:		Date: 5/26/16 Time: 11:20 Date: Time:		Received By: [Signature] Received By:	
		Date: 05/26/16 Time: [Signature]		Date: Time:		Date: Time:	
Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:	
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact						Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 4655

Page: 2 of 2

Lab Work Order #: R162204		Report To: Steve Demus	
Preservation Codes		Company: CH2M	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:			
Company:			
Address 1:			
Address 2:			
Sample Description	Collection Date Time	Matrix	Total # of Containers
SB13-55-55	5/26/16 10:05	S	1
SB13-55-60	10:35		1
SB13-55-63	10:40		1
FD14-55	L 10:05	L	1
05/26/16			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: David Butler Date: 5/26/16 Time: 11:20 Relinquished By: _____ Date: _____ Time: _____	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: _____ Receipt Temp: _____ Thermometer #/ Exp. Date: _____ Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	
		Received By: _____ Date: 05/26/16 Time: 11:20 Received By: _____ Date: _____ Time: _____	



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CHAIN OF CUSTODY

No. 4658

Page: 1 of 2 3 of 4

Project Number: <u>661508</u>		PO Number:		Lab Work Order #: <u>K162204</u>		Report To: <u>Steve Demus</u>	
Project Name: <u>UPRR Freeman RT</u>		Project Location (City, State): <u>Freeman, WA</u>		Preservation Codes		Company: <u>CH2M</u>	
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		If Rush, Report Due Date: <u>24 hr</u>		Analyses Requested		Address 1:	
Sampled By (Print): <u>David Butler, Nicole Baden</u>		Matrix		Total # of Containers		Address 2:	
Sample Description		Collection Date		Time		E-mail Address:	
		Date		Time		Invoice To:	
		Date		Time		Company:	
		Date		Time		Address 1:	
		Date		Time		Address 2:	
		Date		Time		Comments	
		Date		Time		Lab ID	
		Date		Time		Lab Receipt Time	
<u>SB14-55-05</u>		<u>5/26/16</u>		<u>12:30</u>		<u>9</u>	
<u>SB14-55-10</u>				<u>12:40</u>		<u>1</u>	
<u>SB14-55-15</u>				<u>12:45</u>		<u>1</u>	
<u>SB14-55-20</u>				<u>13:20</u>		<u>1</u>	
<u>SB14-55-25</u>				<u>13:25</u>		<u>3</u>	
<u>SB14-55-30</u>				<u>13:55</u>		<u>1</u>	
<u>SB14-55-35</u>				<u>14:00</u>		<u>1</u>	
<u>SB14-55-40</u>				<u>14:20</u>		<u>1</u>	
<u>SB14-55-45</u>				<u>14:25</u>		<u>1</u>	
<u>FD13-55</u>				<u>13:10</u>		<u>1</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <u>David Butler</u> Relinquished By:		Date: <u>5/26/16</u> Time: <u>15:45</u> Date: Time:		Received By: <u>[Signature]</u> Date: <u>05/26/16</u> Time: <u>[Signature]</u>	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:	
				Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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No. 4659

Page: 2 of 2

Project Number: <u>661508</u>		PO Number:		Lab Work Order #: <u>R162204</u>		Report To: <u>Steve Demus</u>			
Project Name: <u>UPRR Freeman RI</u>		Preservation Codes		Analyses Requested		Company: <u>CH2M</u>			
Project Location (City, State): <u>Freeman, WA</u>		Address 1:		Address 2:		E-mail Address:			
Turn Around (check one): <input type="checkbox"/> Normal <input checked="" type="checkbox"/> Rush		Matrix		Total # of Containers <u>8260 B</u>		Invoice To:			
If Rush, Report Due Date: <u>24hr</u>						Company:			
Sampled By (Print): <u>David Butler, Nicole Badon</u>						Address 1:			
Sample Description		Collection		Comments		Address 2:			
		Date	Time			Lab ID	Lab Receipt Time		
<u>SB14-55-50</u>		<u>5/26/10</u>	<u>15:30</u>	<u>S</u>	<u>1</u>	<u>X</u>	<u>25</u>	<u>1545</u>	
<u>SB14-55-54</u>		<u>1</u>	<u>15:35</u>	<u>S</u>	<u>1</u>	<u>X</u>	<u>26</u>	<u>1545</u>	
<u>05/26/10</u> <u>SC</u>									
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>David Butler</u>		Date: <u>5/26/10</u> Time: <u>15:45</u>		Received By: <u>[Signature]</u>	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:	
								Date: <u>05/26/10</u> Time: <u>1545</u>	
								Date: _____ Time: _____	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

Pace Laboratories On-Site Laboratory Case Narrative

Report Date	July 14, 2016
Client	CH2M Hill
Site/ Project Name	Freeman WA – Cenex Harvest Lease Site
Location	Freeman, Washington
Dates of Service	June 27, 2016 to July 1, 2016
Test Method Reference	LAM-010 VOCs by 8260 Direct Inject SIM
Pace Project Number	2754

1. Introduction

Pace Analytical – Mobile Lab Services (Pace) mobilized to the referenced site to provide analytical chemistry support during site investigation activities. The compounds of concern for the site are carbon tetrachloride and chloroform. The reported analytes for the project were the full list of VOC analytes reported under the 8260 Direct Inject SIM method. The laboratory analyzed 93 soil samples for the VOC Direct Inject analysis while on site. Since all of the VOC samples were prepared / analyzed upon receipt by the laboratory, all method holding times were met. The Pace Lead Chemist was Jason Worden, and the Pace project manager was Patrick Letterer.

2. Pace Method Summary

- Soil samples were analyzed for the VOC analytes in accordance with Pace standard operating procedure (SOP) listed above.
- Two Lock N’ Load containers were received for each soil sample. The samples were immediately logged in on Pace chain of custody (COC) and prepared.
- An eight point calibration was performed with verification by an independent second source standard.
- Internal standards and surrogates were added to all samples to verify the accuracy of individual sample results.
- Samples and standards were analyzed by direct injection into the GCMS system.
- Pace performed all analyses using HP 5890 gas chromatograph (GC) systems with Hewlett-Packard (HP) 5972 mass spectrometer.

3. Quality Control Summary

Initial Calibration	For the VOCs, an initial calibration curve was prepared at eight concentrations. (10, 25, 50, 200, 500, 2000, 5000 and 10000 ng/mL).
Continuing Calibration	The instrument calibration was verified every 10 injections and at the end of a run. All continuing calibration checks were acceptable except where qualified.
Method Blanks	The method blanks that were analyzed each day were free of contamination.
Laboratory Control Samples	The recoveries for the constituents of concern were acceptable.
MS/MSD	The recoveries for the constituents of concern were acceptable except where qualified.

4. Analytical Reports

All field-generated results were confirmed through the standard Pace review process and no sample results have changed from draft to final. Appendix A contains analytical results for the project in summary format. Appendix B contains full analytical reports for each sample along with quality control sample results. Appendix C contains chain of custody documentation.

5. Signature Approval

This document has been prepared by the under-signed:

 **07/14/2016**

Patrick Letterer
Project Manager

Date

Certification List

		Number	Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2018
ILEPA	Illinois Secondary NELAP Accreditation	003174	04/30/2017
KDHE	Kansas Secondary NELAP Accreditation	E-10384	07/31/2016
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2017
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	06/30/2017
ODEQ	Oklahoma Dept. of Env. Quality Accreditation	2014-153	08/31/2016
PADEP	Pennsylvania Secondary NELAP Accreditation	68-02962	05/31/2017
TCEQ	Texas Secondary NELAP Accreditation	T104704504-15-6	11/30/2016
WADOE	Washington Secondary NELAP Accreditation	C1028	05/01/2017
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2016

Appendix A
Results in Summary Format

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162701-01	K162701-02	K162701-03	K162701-04	K162701-05	K162701-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB16-SS-05	SB16-SS-10	SB16-SS-15	SB16-SS-20	SB16-SS-25	SB16-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Benzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Chloroform	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Chloromethane	0.050 mg/kg dry	<0.044 [1]	<0.045 [1]	<0.045 [1]	<0.046 [1]	<0.050 [1]	<0.051 [1]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.044	<0.045	<0.045	<0.046	<0.050	<0.051
Methylene chloride	0.10 mg/kg dry	<0.088	<0.090	<0.090	<0.093	<0.10	<0.10
Naphthalene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
o-Xylene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162701-01	K162701-02	K162701-03	K162701-04	K162701-05	K162701-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB16-SS-05	SB16-SS-10	SB16-SS-15	SB16-SS-20	SB16-SS-25	SB16-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Toluene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Trichloroethene	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.022	<0.023	<0.023	<0.023	<0.025	<0.026
Xylenes, total	0.075 mg/kg dry	<0.066	<0.068	<0.068	<0.070	<0.075	<0.077
1-Bromo-2-chloroethane	130 [surr]	100%	98%	100%	110%	98%	110%
Toluene-d8	136 [surr]	100%	100%	100%	110%	98%	110%
4-Bromofluorobenzene	145 [surr]	100%	99%	110%	100%	100%	110%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	85.0	84.1	84.3	86.8	92.3	67.7
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162701-07	K162702-01	K162702-02	K162702-03	K162702-04	K162702-05
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SBFD1-062716	MW6-SS-05	MW6-SS-10	MW6-SS-15	MW6-SS-20	MW6-SS-25

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Chloroform	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Chloromethane	0.050 mg/kg dry	<0.049 [1]	<0.047 [1]	<0.044 [1]	<0.045 [1]	<0.044 [1]	<0.045 [1]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
m,p-Xylene	0.050 mg/kg dry	<0.049	<0.047	<0.044	<0.045	<0.044	<0.045
Methylene chloride	0.10 mg/kg dry	<0.098	<0.095	<0.089	<0.091	<0.089	<0.091
Naphthalene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
o-Xylene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023

SUMMARY REPORT

CH2M Project: Grain Handling Facility at Freeman - Freeman, WA
 2020 SW 4th Avenue Project Number: 2754
 Portland, OR 97201

LAB #		K162701-07	K162702-01	K162702-02	K162702-03	K162702-04	K162702-05
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SBFD1-062716	MW6-SS-05	MW6-SS-10	MW6-SS-15	MW6-SS-20	MW6-SS-25

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Toluene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Trichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.024	<0.022	<0.023	<0.022	<0.023
Xylenes, total	0.075 mg/kg dry	<0.073	<0.071	<0.066	<0.068	<0.067	<0.068
1-Bromo-2-chloroethane	130 [surr]	100%	120%	110%	110%	110%	110%
Toluene-d8	136 [surr]	100%	120%	110%	110%	110%	110%
4-Bromofluorobenzene	145 [surr]	110%	110%	100%	110%	98%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	91.2	85.2	86.3	92.1	85.2	87.1
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162702-06	K162702-07	K162702-08	K162702-09	K162702-10	K162702-11
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW6-SS-30	MW6-SS-35	MW6-SS-40	MW6-SS-45	MW6-SS-50	SB-FD2-062716

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
4-Chlorotoluene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Benzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Chloroform	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Chloromethane	0.050 mg/kg dry	<0.055 [1]	<0.050 [1]	<0.054 [1]	<0.052 [1]	<0.051 [1]	<0.054 [1]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.055	<0.050	<0.054	<0.052	<0.051	<0.054
Methylene chloride	0.10 mg/kg dry	<0.11	<0.10	<0.11	<0.10	<0.10	<0.11
Naphthalene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
n-Butyl Benzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
o-Xylene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
sec-Butyl Benzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162702-06	K162702-07	K162702-08	K162702-09	K162702-10	K162702-11
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW6-SS-30	MW6-SS-35	MW6-SS-40	MW6-SS-45	MW6-SS-50	SB-FD2-062716

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Toluene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Trichloroethene	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.028	<0.025	<0.027	<0.026	<0.026	<0.027
Xylenes, total	0.075 mg/kg dry	<0.083	<0.075	<0.080	<0.078	<0.077	<0.080
1-Bromo-2-chloroethane	130 [surr]	110%	100%	96%	100%	110%	99%
Toluene-d8	136 [surr]	100%	100%	99%	100%	100%	98%
4-Bromofluorobenzene	145 [surr]	100%	96%	94%	99%	100%	97%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	64.7	67.6	63.5	64.9	72.2	66.6
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162703-01	K162703-02	K162703-03	K162703-04	K162703-05	K162703-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB17-SS-05	SB17-SS-10	SB17-SS-15	SB17-SS-20	SB17-SS-25	SB17-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,1-Dichloroethane	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,1-Dichloroethene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,2-Dichloroethane	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
2-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
4-Chlorotoluene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Benzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Carbon tetrachloride	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Chlorobenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Chloroform	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Chloromethane	0.050 mg/kg dry	<0.044	<0.052	<0.046	<0.048	<0.047	<0.045
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Ethylbenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Isopropylbenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
m,p-Xylene	0.050 mg/kg dry	<0.044	<0.052	<0.046	<0.048	<0.047	<0.045
Methylene chloride	0.10 mg/kg dry	<0.088	<0.10	<0.092	<0.095	<0.094	<0.090
Naphthalene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
n-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
n-Propyl Benzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
o-Xylene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
p-Isopropyltoluene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
sec-Butyl Benzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022

SUMMARY REPORT

<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #		K162703-01	K162703-02	K162703-03	K162703-04	K162703-05	K162703-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB17-SS-05	SB17-SS-10	SB17-SS-15	SB17-SS-20	SB17-SS-25	SB17-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
tert-Butylbenzene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Tetrachloroethene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Toluene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Trichloroethene	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Vinyl chloride	0.025 mg/kg dry	<0.022	<0.026	<0.023	<0.024	<0.023	<0.022
Xylenes, total	0.075 mg/kg dry	<0.066	<0.078	<0.069	<0.071	<0.070	<0.067
1-Bromo-2-chloroethane	130 [surr]	93%	96%	98%	94%	91%	93%
Toluene-d8	136 [surr]	97%	100%	100%	100%	95%	100%
4-Bromofluorobenzene	145 [surr]	100%	100%	99%	99%	95%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	82.5	82.7	79.8	81.1	80.0	81.1
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SUMMARY REPORT

<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #	K162703-07	K162703-08	K162703-09	K162703-10	K162703-11	K162703-12	
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	
SAMPLE ID	Reporting Limit	SB17-SS-35	SB17-SS-40	SB17-SS-45	SB17-SS-50	SB17-SS-55	SB17-SS-60

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Benzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Chloroform	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Chloromethane	0.050 mg/kg dry	<0.051	<0.039	<0.042	<0.051	<0.051	<0.055
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
m,p-Xylene	0.050 mg/kg dry	<0.051	<0.039	<0.042	<0.051	<0.051	<0.055
Methylene chloride	0.10 mg/kg dry	<0.10	<0.079	<0.084	<0.10	<0.10	<0.11
Naphthalene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
o-Xylene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162703-07	K162703-08	K162703-09	K162703-10	K162703-11	K162703-12
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB17-SS-35	SB17-SS-40	SB17-SS-45	SB17-SS-50	SB17-SS-55	SB17-SS-60

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Toluene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Trichloroethene	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.020	<0.021	<0.026	<0.025	<0.028
Xylenes, total	0.075 mg/kg dry	<0.077	<0.059	<0.063	<0.077	<0.076	<0.083
1-Bromo-2-chloroethane	130 [surr]	90%	100%	93%	94%	91%	97%
Toluene-d8	136 [surr]	100%	110%	98%	100%	96%	98%
4-Bromofluorobenzene	145 [surr]	100%	100%	110%	100%	110%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	80.2	83.1	87.1	69.1	71.5	60.3
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162703-13	K162703-14	K162703-15	K162703-16	K162703-17	K162704-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB17-SS-65	SB17-SS-70	SB17-SS-75	SB17-SS-80	SB-FD1-062816	SB15-SS-05

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,1-Dichloroethane	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,1-Dichloroethene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,2-Dichloroethane	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
2-Chlorotoluene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
4-Chlorotoluene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Benzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Carbon tetrachloride	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Chlorobenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Chloroform	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Chloromethane	0.050 mg/kg dry	<0.057	<0.052	<0.053	<0.050	<0.050	<0.044
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Ethylbenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Isopropylbenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
m,p-Xylene	0.050 mg/kg dry	<0.057	<0.052	<0.053	<0.050	<0.050	<0.044
Methylene chloride	0.10 mg/kg dry	<0.11	<0.10	<0.11	<0.10	<0.10	<0.089
Naphthalene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
n-Butyl Benzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
n-Propyl Benzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
o-Xylene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
p-Isopropyltoluene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
sec-Butyl Benzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162703-13	K162703-14	K162703-15	K162703-16	K162703-17	K162704-01
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB17-SS-65	SB17-SS-70	SB17-SS-75	SB17-SS-80	SB-FD1-062816	SB15-SS-05

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
tert-Butylbenzene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Tetrachloroethene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Toluene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Trichloroethene	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Vinyl chloride	0.025 mg/kg dry	<0.029	<0.026	<0.026	<0.025	<0.025	<0.022
Xylenes, total	0.075 mg/kg dry	<0.086	<0.077	<0.079	<0.075	<0.075	<0.067
1-Bromo-2-chloroethane	130 [surr]	92%	89%	96%	100%	94%	97%
Toluene-d8	136 [surr]	97%	99%	98%	100%	97%	94%
4-Bromofluorobenzene	145 [surr]	98%	96%	97%	100%	120%	95%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	62.4	67.6	61.7	64.3	79.7	80.3
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SUMMARY REPORT

<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #		K162704-02	K162704-03	K162704-04	K162704-05	K162704-06	K162704-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB15-SS-10	SB15-SS-15	SB15-SS-20	SB15-SS-25	SB15-SS-30	SB15-SS-35

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Benzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Chloroform	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Chloromethane	0.050 mg/kg dry	<0.046	<0.043	<0.049	<0.055	<0.049	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.046	<0.043	<0.049	<0.055	<0.049	<0.051
Methylene chloride	0.10 mg/kg dry	<0.092	<0.086	<0.098	<0.11	<0.098	<0.10
Naphthalene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
o-Xylene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Styrene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Toluene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Trichloroethene	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.023	<0.021	<0.024	<0.027	<0.025	<0.025
Xylenes, total	0.075 mg/kg dry	<0.069	<0.064	<0.073	<0.082	<0.074	<0.076
1-Bromo-2-chloroethane	130 [surr]	89%	97%	100%	98%	100%	95%

SUMMARY REPORT

<p>CH2M</p> <p>2020 SW 4th Avenue</p> <p>Portland, OR 97201</p>	<p>Project: Grain Handling Facility at Freeman - Freeman, WA</p> <p>Project Number: 2754</p>
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LAB #		K162704-02	K162704-03	K162704-04	K162704-05	K162704-06	K162704-07
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB15-SS-10	SB15-SS-15	SB15-SS-20	SB15-SS-25	SB15-SS-30	SB15-SS-35
Volatile Organic Compounds by Method 8260 - Direct Inject (continued)							
Toluene-d8	136 [surr]	92%	96%	99%	95%	96%	95%
4-Bromofluorobenzene	145 [surr]	88%	99%	98%	100%	98%	99%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	80.9	81.9	74.2	68.2	70.5	67.1

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162704-08	K162704-09	K162704-10	K162704-11	K162704-12	K162704-13
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB15-SS-40	SB15-SS-45	SB15-SS-50	SB15-SS-55	SB15-SS-60	SB15-SS-65

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Chloroform	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Chloromethane	0.050 mg/kg dry	<0.050	<0.052	<0.048	<0.049	<0.046	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.050	<0.052	<0.048	<0.049	<0.046	<0.051
Methylene chloride	0.10 mg/kg dry	<0.10	<0.10	<0.097	<0.098	<0.091	<0.10
Naphthalene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
o-Xylene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162704-08	K162704-09	K162704-10	K162704-11	K162704-12	K162704-13
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB15-SS-40	SB15-SS-45	SB15-SS-50	SB15-SS-55	SB15-SS-60	SB15-SS-65

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Toluene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Trichloroethene	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.026	<0.024	<0.024	<0.023	<0.026
Xylenes, total	0.075 mg/kg dry	<0.075	<0.078	<0.073	<0.073	<0.069	<0.077
1-Bromo-2-chloroethane	130 [surr]	100%	99%	97%	98%	100%	88%
Toluene-d8	136 [surr]	100%	94%	99%	100%	99%	90%
4-Bromofluorobenzene	145 [surr]	100%	89%	100%	98%	100%	94%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	66.9	67.7	67.9	69.3	81.6	69.7
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162704-14	K162704-15	K162704-16	K162704-17	K162704-18	K162704-19
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB15-SS-70	SB15-SS-75	SB15-SS-80	SB15-SS-85	SB15-SS-90	SB15-SS-95

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,1-Dichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,1-Dichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,2-Dichloroethane	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
2-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
4-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	0.037	<0.022	<0.024
Carbon tetrachloride	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Chlorobenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Chloroform	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Chloromethane	0.050 mg/kg dry	<0.054	<0.046	<0.051	<0.052	<0.043	<0.048
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Ethylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Isopropylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
m,p-Xylene	0.050 mg/kg dry	<0.054	<0.046	<0.051	<0.052	<0.043	<0.048
Methylene chloride	0.10 mg/kg dry	<0.11	<0.092	<0.10	<0.10	<0.087	<0.097
Naphthalene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
n-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
n-Propyl Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
o-Xylene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
p-Isopropyltoluene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
sec-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162704-14	K162704-15	K162704-16	K162704-17	K162704-18	K162704-19
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB15-SS-70	SB15-SS-75	SB15-SS-80	SB15-SS-85	SB15-SS-90	SB15-SS-95

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
tert-Butylbenzene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Tetrachloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Toluene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Trichloroethene	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Vinyl chloride	0.025 mg/kg dry	<0.027	<0.023	<0.025	<0.026	<0.022	<0.024
Xylenes, total	0.075 mg/kg dry	<0.081	<0.069	<0.076	<0.079	<0.065	<0.073
1-Bromo-2-chloroethane	130 [surr]	91%	94%	97%	88%	91%	96%
Toluene-d8	136 [surr]	96%	97%	97%	93%	92%	95%
4-Bromofluorobenzene	145 [surr]	100%	96%	97%	95%	96%	97%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	70.7	66.5	68.5	67.8	86.6	86.8
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162704-20	K162704-21	K162705-01	K162705-02	K162705-03	K162705-04
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB-FD1-063016	SB-FD2-063016	SB18-SS-05	SB18-SS-10	SB18-SS-15	SB18-SS-20

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,1-Dichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,1-Dichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,2-Dichloroethane	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
2-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
4-Chlorotoluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Carbon tetrachloride	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Chlorobenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Chloroform	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Chloromethane	0.050 mg/kg dry	<0.054	<0.049	<0.048	<0.046	<0.051	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Ethylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Isopropylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
m,p-Xylene	0.050 mg/kg dry	<0.054	<0.049	<0.048	<0.046	<0.051	<0.051
Methylene chloride	0.10 mg/kg dry	<0.11	<0.098	<0.097	<0.092	<0.10	<0.10
Naphthalene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
n-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
n-Propyl Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
o-Xylene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
p-Isopropyltoluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
sec-Butyl Benzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162704-20	K162704-21	K162705-01	K162705-02	K162705-03	K162705-04
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB-FD1-063016	SB-FD2-063016	SB18-SS-05	SB18-SS-10	SB18-SS-15	SB18-SS-20

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
tert-Butylbenzene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Tetrachloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Toluene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Trichloroethene	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Vinyl chloride	0.025 mg/kg dry	<0.027	<0.025	<0.024	<0.023	<0.025	<0.025
Xylenes, total	0.075 mg/kg dry	<0.081	<0.074	<0.073	<0.069	<0.076	<0.076
1-Bromo-2-chloroethane	130 [surr]	94%	90%	92%	95%	93%	97%
Toluene-d8	136 [surr]	98%	94%	97%	98%	96%	99%
4-Bromofluorobenzene	145 [surr]	99%	99%	97%	90%	100%	95%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	66.6	69.5	86.4	83.2	67.1	69.2
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162705-05	K162705-06	K162705-07	K162705-08	K162705-09	K162705-10
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB18-SS-25	SB18-SS-30	SB18-SS-35	SB18-SS-40	SB18-SS-45	SB18-SS-50

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.026	0.043	0.035	<0.027	<0.026
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Chloroform	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Chloromethane	0.050 mg/kg dry	<0.049	<0.052	<0.056	<0.051	<0.054	<0.051
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
m,p-Xylene	0.050 mg/kg dry	<0.049	<0.052	<0.056	<0.051	<0.054	<0.051
Methylene chloride	0.10 mg/kg dry	<0.097	<0.10	<0.11	<0.10	<0.11	<0.10
Naphthalene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027 [1]	<0.026 [1]
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
o-Xylene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162705-05	K162705-06	K162705-07	K162705-08	K162705-09	K162705-10
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB18-SS-25	SB18-SS-30	SB18-SS-35	SB18-SS-40	SB18-SS-45	SB18-SS-50

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Toluene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Trichloroethene	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.026	<0.028	<0.026	<0.027	<0.026
Xylenes, total	0.075 mg/kg dry	<0.073	<0.078	<0.084	<0.077	<0.081	<0.077
1-Bromo-2-chloroethane	130 [surr]	88%	91%	91%	90%	95%	94%
Toluene-d8	136 [surr]	92%	89%	90%	92%	99%	97%
4-Bromofluorobenzene	145 [surr]	94%	91%	88%	91%	98%	90%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	70.2	75.9	63.8	66.8	68.6	67.5
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162706-01	K162706-02	K162706-03	K162706-04	K162706-05	K162706-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB19-SS-05	SB19-SS-10	SB19-SS-15	SB19-SS-20	SB19-SS-25	SB19-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,1-Dichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,1-Dichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,2-Dichloroethane	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
2-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
4-Chlorotoluene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Carbon tetrachloride	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Chlorobenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Chloroform	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Chloromethane	0.050 mg/kg dry	<0.048	<0.048	<0.047	<0.054	<0.056	<0.058
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Ethylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Isopropylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
m,p-Xylene	0.050 mg/kg dry	<0.048	<0.048	<0.047	<0.054	<0.056	<0.058
Methylene chloride	0.10 mg/kg dry	<0.096	<0.097	<0.095	<0.11	<0.11	<0.12
Naphthalene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
n-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
n-Propyl Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
o-Xylene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
p-Isopropyltoluene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
sec-Butyl Benzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162706-01	K162706-02	K162706-03	K162706-04	K162706-05	K162706-06
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB19-SS-05	SB19-SS-10	SB19-SS-15	SB19-SS-20	SB19-SS-25	SB19-SS-30

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
tert-Butylbenzene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Tetrachloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Toluene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Trichloroethene	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Vinyl chloride	0.025 mg/kg dry	<0.024	<0.024	<0.024	<0.027	<0.028	<0.029
Xylenes, total	0.075 mg/kg dry	<0.072	<0.072	<0.071	<0.081	<0.083	<0.088
1-Bromo-2-chloroethane	130 [surr]	91%	95%	100%	95%	92%	92%
Toluene-d8	136 [surr]	92%	96%	100%	95%	92%	90%
4-Bromofluorobenzene	145 [surr]	96%	97%	99%	93%	93%	110%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	83.3	80.7	85.6	71.7	68.5	66.0
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162706-07	K162706-08	K162706-09	K162707-01	K162707-02	K162707-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB19-SS-35	SB19-SS-40	SB-FD3-063016	MW2-SS-05	MW2-SS-10	MW2-SS-15

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Chloroform	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Chloromethane	0.050 mg/kg dry	<0.052	<0.051	<0.050 [1]	<0.048 [1]	<0.055 [1]	<0.048 [1]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
m,p-Xylene	0.050 mg/kg dry	<0.052	<0.051	<0.050	<0.048	<0.055	<0.048
Methylene chloride	0.10 mg/kg dry	<0.10	<0.10	<0.10	<0.096	<0.11	<0.096
Naphthalene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
o-Xylene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162706-07	K162706-08	K162706-09	K162707-01	K162707-02	K162707-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	SB19-SS-35	SB19-SS-40	SB-FD3-063016	MW2-SS-05	MW2-SS-10	MW2-SS-15

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Toluene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Trichloroethene	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.026	<0.025	<0.024	<0.028	<0.024
Xylenes, total	0.075 mg/kg dry	<0.079	<0.077	<0.076	<0.072	<0.083	<0.072
1-Bromo-2-chloroethane	130 [surr]	95%	91%	96%	90%	92%	99%
Toluene-d8	136 [surr]	96%	93%	99%	93%	95%	97%
4-Bromofluorobenzene	145 [surr]	98%	96%	95%	96%	95%	94%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	74.1	73.1	70.2	88.1	70.9	73.5
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162707-04	K162707-05	K162707-06	K162707-07	K162707-08	K162707-09
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW2-SS-20	MW2-SS-25	MW2-SS-30	MW2-SS-35	MW2-SS-40	MW2-SS-45

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,1-Dichloroethane	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,1-Dichloroethene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,2-Dichloroethane	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
2-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
4-Chlorotoluene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Benzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Carbon tetrachloride	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Chlorobenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Chloroform	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Chloromethane	0.050 mg/kg dry	<0.046 [1]	<0.047	<0.054	<0.052	<0.049	<0.054
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Ethylbenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Isopropylbenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
m,p-Xylene	0.050 mg/kg dry	<0.046	<0.047	<0.054	<0.052	<0.049	<0.054
Methylene chloride	0.10 mg/kg dry	<0.091	<0.094	<0.11	<0.10	<0.099	<0.11
Naphthalene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
n-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
n-Propyl Benzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
o-Xylene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
p-Isopropyltoluene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
sec-Butyl Benzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162707-04	K162707-05	K162707-06	K162707-07	K162707-08	K162707-09
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW2-SS-20	MW2-SS-25	MW2-SS-30	MW2-SS-35	MW2-SS-40	MW2-SS-45

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
tert-Butylbenzene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Tetrachloroethene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Toluene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Trichloroethene	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Vinyl chloride	0.025 mg/kg dry	<0.023	<0.023	<0.027	<0.026	<0.025	<0.027
Xylenes, total	0.075 mg/kg dry	<0.068	<0.070	<0.081	<0.077	<0.074	<0.081
1-Bromo-2-chloroethane	130 [surr]	92%	90%	93%	96%	97%	94%
Toluene-d8	136 [surr]	96%	91%	94%	98%	97%	95%
4-Bromofluorobenzene	145 [surr]	89%	93%	95%	99%	100%	100%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	71.6	73.6	64.6	64.4	73.8	69.1
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CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162707-10	K162707-11	K162707-12	K162707-13	K162707-14	K162707-15
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW2-SS-50	MW2-SS-55	MW2-SS-60	MW2-SS-65	MW2-SS-70	MW2-SS-75

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,1-Dichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,1-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,2-Dichloroethane	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
2-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
4-Chlorotoluene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Carbon tetrachloride	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Chlorobenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Chloroform	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Chloromethane	0.050 mg/kg dry	<0.052	<0.049	<0.046	<0.051 [1]	<0.054 [1]	<0.059 [1]
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Ethylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Isopropylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
m,p-Xylene	0.050 mg/kg dry	<0.052	<0.049	<0.046	<0.051	<0.054	<0.059
Methylene chloride	0.10 mg/kg dry	<0.10	<0.097	<0.092	<0.10	<0.11	<0.12
Naphthalene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
n-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
n-Propyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
o-Xylene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
p-Isopropyltoluene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
sec-Butyl Benzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162707-10	K162707-11	K162707-12	K162707-13	K162707-14	K162707-15
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	MW2-SS-50	MW2-SS-55	MW2-SS-60	MW2-SS-65	MW2-SS-70	MW2-SS-75

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
tert-Butylbenzene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Tetrachloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Toluene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Trichloroethene	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Vinyl chloride	0.025 mg/kg dry	<0.026	<0.024	<0.023	<0.026	<0.027	<0.029
Xylenes, total	0.075 mg/kg dry	<0.079	<0.073	<0.069	<0.077	<0.081	<0.088
1-Bromo-2-chloroethane	130 [surr]	100%	98%	99%	91%	93%	88%
Toluene-d8	136 [surr]	100%	99%	100%	94%	97%	95%
4-Bromofluorobenzene	145 [surr]	100%	100%	99%	94%	96%	93%

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	66.9	76.6	73.0	70.5	66.5	65.8
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SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
Portland, OR 97201	

LAB #		K162707-16	K162707-17	K162707-18	-	-	-
MATRIX	Minimum	Soil	Soil	Soil	-	-	-
SAMPLE ID	Reporting Limit	MW2-SS-80	MW2-SS-85	SB-FD1-070116	-	-	-

Volatile Organic Compounds by Method 8260 - Direct Inject (Soil)

1,1,1-Trichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,1,2,2-Tetrachloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,1,2-Trichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,1-Dichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,1-Dichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,2,3-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,2,4-Trichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,2,4-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,2-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,2-Dichloroethane	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,3,5-Trimethylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,3-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
1,4-Dichlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
2-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
4-Chlorotoluene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Carbon tetrachloride	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Chlorobenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Chloroform	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Chloromethane	0.050 mg/kg dry	<0.049 [1]	<0.048 [1]	<0.052 [1]	-	-	-
cis-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Ethylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Isopropylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
m,p-Xylene	0.050 mg/kg dry	<0.049	<0.048	<0.052	-	-	-
Methylene chloride	0.10 mg/kg dry	<0.098	<0.097	<0.10	-	-	-
Naphthalene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
n-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
n-Propyl Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
o-Xylene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
p-Isopropyltoluene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
sec-Butyl Benzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-

SUMMARY REPORT

CH2M	Project: Grain Handling Facility at Freeman - Freeman, WA
2020 SW 4th Avenue	Project Number: 2754
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LAB #		K162707-16	K162707-17	K162707-18	-	-	-
MATRIX	Minimum	Soil	Soil	Soil	-	-	-
SAMPLE ID	Reporting Limit	MW2-SS-80	MW2-SS-85	SB-FD1-070116	-	-	-

Volatile Organic Compounds by Method 8260 - Direct Inject (continued)

Styrene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
tert-Butylbenzene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Tetrachloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Toluene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
trans-1,2-Dichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Trichloroethene	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Vinyl chloride	0.025 mg/kg dry	<0.025	<0.024	<0.026	-	-	-
Xylenes, total	0.075 mg/kg dry	<0.074	<0.073	<0.079	-	-	-
1-Bromo-2-chloroethane	130 [surr]	93%	94%	90%	-	-	-
Toluene-d8	136 [surr]	98%	97%	97%	-	-	-
4-Bromofluorobenzene	145 [surr]	95%	96%	96%	-	-	-

Classical Chemistry Parameters (Soil)

% Solids	0.00 % by Weight	84.6	91.8	70.2	-	-	-
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Special Notes

1 = Results may be biased low because of low continuing calibration verification (CCV).

Appendix B

Detailed Sample and Quality Control Results



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CH2M
 2020 SW 4th Avenue
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB16-SS-05	K162701-01	Soil	06/27/2016	06/27/2016
SB16-SS-10	K162701-02	Soil	06/27/2016	06/27/2016
SB16-SS-15	K162701-03	Soil	06/27/2016	06/27/2016
SB16-SS-20	K162701-04	Soil	06/27/2016	06/27/2016
SB16-SS-25	K162701-05	Soil	06/27/2016	06/27/2016
SB16-SS-30	K162701-06	Soil	06/27/2016	06/27/2016
SBFD1-062716	K162701-07	Soil	06/27/2016	06/27/2016
MW6-SS-05	K162702-01	Soil	06/27/2016	06/27/2016
MW6-SS-10	K162702-02	Soil	06/27/2016	06/27/2016
MW6-SS-15	K162702-03	Soil	06/27/2016	06/27/2016
MW6-SS-20	K162702-04	Soil	06/27/2016	06/27/2016
MW6-SS-25	K162702-05	Soil	06/27/2016	06/27/2016
MW6-SS-30	K162702-06	Soil	06/27/2016	06/27/2016
MW6-SS-35	K162702-07	Soil	06/27/2016	06/27/2016
MW6-SS-40	K162702-08	Soil	06/27/2016	06/27/2016
MW6-SS-45	K162702-09	Soil	06/27/2016	06/27/2016
MW6-SS-50	K162702-10	Soil	06/27/2016	06/27/2016
SB-FD2-062716	K162702-11	Soil	06/27/2016	06/27/2016
SB17-SS-05	K162703-01	Soil	06/28/2016	06/28/2016
SB17-SS-10	K162703-02	Soil	06/28/2016	06/28/2016
SB17-SS-15	K162703-03	Soil	06/28/2016	06/28/2016
SB17-SS-20	K162703-04	Soil	06/28/2016	06/28/2016
SB17-SS-25	K162703-05	Soil	06/28/2016	06/28/2016
SB17-SS-30	K162703-06	Soil	06/28/2016	06/28/2016
SB17-SS-35	K162703-07	Soil	06/28/2016	06/28/2016
SB17-SS-40	K162703-08	Soil	06/28/2016	06/28/2016
SB17-SS-45	K162703-09	Soil	06/28/2016	06/28/2016
SB17-SS-50	K162703-10	Soil	06/28/2016	06/28/2016
SB17-SS-55	K162703-11	Soil	06/28/2016	06/28/2016
SB17-SS-60	K162703-12	Soil	06/28/2016	06/28/2016
SB17-SS-65	K162703-13	Soil	06/28/2016	06/28/2016



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 Project Number: 2754

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB17-SS-70	K162703-14	Soil	06/28/2016	06/28/2016
SB17-SS-75	K162703-15	Soil	06/28/2016	06/28/2016
SB17-SS-80	K162703-16	Soil	06/28/2016	06/28/2016
SB-FD1-062816	K162703-17	Soil	06/28/2016	06/28/2016
SB15-SS-05	K162704-01	Soil	06/30/2016	06/30/2016
SB15-SS-10	K162704-02	Soil	06/30/2016	06/30/2016
SB15-SS-15	K162704-03	Soil	06/30/2016	06/30/2016
SB15-SS-20	K162704-04	Soil	06/30/2016	06/30/2016
SB15-SS-25	K162704-05	Soil	06/30/2016	06/30/2016
SB15-SS-30	K162704-06	Soil	06/30/2016	06/30/2016
SB15-SS-35	K162704-07	Soil	06/30/2016	06/30/2016
SB15-SS-40	K162704-08	Soil	06/30/2016	06/30/2016
SB15-SS-45	K162704-09	Soil	06/30/2016	06/30/2016
SB15-SS-50	K162704-10	Soil	06/30/2016	06/30/2016
SB15-SS-55	K162704-11	Soil	06/30/2016	06/30/2016
SB15-SS-60	K162704-12	Soil	06/30/2016	06/30/2016
SB15-SS-65	K162704-13	Soil	06/30/2016	06/30/2016
SB15-SS-70	K162704-14	Soil	06/30/2016	06/30/2016
SB15-SS-75	K162704-15	Soil	06/30/2016	06/30/2016
SB15-SS-80	K162704-16	Soil	06/30/2016	06/30/2016
SB15-SS-85	K162704-17	Soil	06/30/2016	06/30/2016
SB15-SS-90	K162704-18	Soil	06/30/2016	06/30/2016
SB15-SS-95	K162704-19	Soil	06/30/2016	06/30/2016
SB-FD1-063016	K162704-20	Soil	06/30/2016	06/30/2016
SB-FD2-063016	K162704-21	Soil	06/30/2016	06/30/2016
SB18-SS-05	K162705-01	Soil	06/30/2016	06/30/2016
SB18-SS-10	K162705-02	Soil	06/30/2016	06/30/2016
SB18-SS-15	K162705-03	Soil	06/30/2016	06/30/2016
SB18-SS-20	K162705-04	Soil	06/30/2016	06/30/2016
SB18-SS-25	K162705-05	Soil	06/30/2016	06/30/2016
SB18-SS-30	K162705-06	Soil	06/30/2016	06/30/2016



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CH2M
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 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB18-SS-35	K162705-07	Soil	06/30/2016	06/30/2016
SB18-SS-40	K162705-08	Soil	06/30/2016	06/30/2016
SB18-SS-45	K162705-09	Soil	06/30/2016	06/30/2016
SB18-SS-50	K162705-10	Soil	06/30/2016	06/30/2016
SB19-SS-05	K162706-01	Soil	06/30/2016	06/30/2016
SB19-SS-10	K162706-02	Soil	06/30/2016	06/30/2016
SB19-SS-15	K162706-03	Soil	06/30/2016	06/30/2016
SB19-SS-20	K162706-04	Soil	06/30/2016	06/30/2016
SB19-SS-25	K162706-05	Soil	06/30/2016	06/30/2016
SB19-SS-30	K162706-06	Soil	06/30/2016	06/30/2016
SB19-SS-35	K162706-07	Soil	06/30/2016	06/30/2016
SB19-SS-40	K162706-08	Soil	06/30/2016	06/30/2016
SB-FD3-063016	K162706-09	Soil	06/30/2016	06/30/2016
MW2-SS-05	K162707-01	Soil	07/01/2016	07/01/2016
MW2-SS-10	K162707-02	Soil	07/01/2016	07/01/2016
MW2-SS-15	K162707-03	Soil	07/01/2016	07/01/2016
MW2-SS-20	K162707-04	Soil	07/01/2016	07/01/2016
MW2-SS-25	K162707-05	Soil	07/01/2016	07/01/2016
MW2-SS-30	K162707-06	Soil	07/01/2016	07/01/2016
MW2-SS-35	K162707-07	Soil	07/01/2016	07/01/2016
MW2-SS-40	K162707-08	Soil	07/01/2016	07/01/2016
MW2-SS-45	K162707-09	Soil	07/01/2016	07/01/2016
MW2-SS-50	K162707-10	Soil	07/01/2016	07/01/2016
MW2-SS-55	K162707-11	Soil	07/01/2016	07/01/2016
MW2-SS-60	K162707-12	Soil	07/01/2016	07/01/2016
MW2-SS-65	K162707-13	Soil	07/01/2016	07/01/2016
MW2-SS-70	K162707-14	Soil	07/01/2016	07/01/2016
MW2-SS-75	K162707-15	Soil	07/01/2016	07/01/2016
MW2-SS-80	K162707-16	Soil	07/01/2016	07/01/2016
MW2-SS-85	K162707-17	Soil	07/01/2016	07/01/2016
SB-FD1-070116	K162707-18	Soil	07/01/2016	07/01/2016



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 Project Number: 2754

SB16-SS-05
K162701-01 (Soil)

Date Sampled
06/27/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Methylene chloride	ND	0.088	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	
Xylenes, total	ND	0.066	mg/kg dry	1	06/27/2016	06/27/2016 13:52	EPA 8260B	



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SB16-SS-05

K162701-01 (Soil)

Date Sampled
06/27/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	101 %	44.1-130	06/27/2016	06/27/2016 13:52	EPA 8260B
Surrogate: Toluene-d8	102 %	42-136	06/27/2016	06/27/2016 13:52	EPA 8260B
Surrogate: 4-Bromofluorobenzene	101 %	54.2-145	06/27/2016	06/27/2016 13:52	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	85.0	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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 Project Number: 2754

SB16-SS-10
K162701-02 (Soil)

Date Sampled
 06/27/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Methylene chloride	ND	0.090	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	06/27/2016	06/27/2016 14:17	EPA 8260B	



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 Project Number: 2754

SB16-SS-10
K162701-02 (Soil)

Date Sampled
 06/27/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	98.1 %		44.1-130		06/27/2016	06/27/2016 14:17	EPA 8260B	
Surrogate: Toluene-d8	100 %		42-136		06/27/2016	06/27/2016 14:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.1 %		54.2-145		06/27/2016	06/27/2016 14:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	84.1	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB16-SS-15
K162701-03 (Soil)

Date Sampled
 06/27/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Methylene chloride	ND	0.090	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	06/27/2016	06/27/2016 14:43	EPA 8260B	



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SB16-SS-15

K162701-03 (Soil)

Date Sampled
06/27/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	103 %	44.1-130	06/27/2016	06/27/2016 14:43	EPA 8260B
Surrogate: Toluene-d8	104 %	42-136	06/27/2016	06/27/2016 14:43	EPA 8260B
Surrogate: 4-Bromofluorobenzene	107 %	54.2-145	06/27/2016	06/27/2016 14:43	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	84.3	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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SB16-SS-20
K162701-04 (Soil)

Date Sampled
 06/27/2016 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Methylene chloride	ND	0.093	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	06/27/2016	06/27/2016 15:10	EPA 8260B	



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SB16-SS-20

K162701-04 (Soil)

Date Sampled
06/27/2016 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606002				
Surrogate: 1-Bromo-2-chloroethane	108 %	44.1-130	06/27/2016	06/27/2016 15:10	EPA 8260B
Surrogate: Toluene-d8	105 %	42-136	06/27/2016	06/27/2016 15:10	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	06/27/2016	06/27/2016 15:10	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606003						
% Solids	86.8	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B



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 Project Number: 2754

SB16-SS-25
K162701-05 (Soil)

Date Sampled
 06/27/2016 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	06/27/2016	06/27/2016 16:27	EPA 8260B	



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SB16-SS-25

K162701-05 (Soil)

Date Sampled
06/27/2016 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	97.7 %	44.1-130	06/27/2016	06/27/2016 16:27	EPA 8260B
Surrogate: Toluene-d8	98.1 %	42-136	06/27/2016	06/27/2016 16:27	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	06/27/2016	06/27/2016 16:27	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	92.3	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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 Project Number: 2754

SB16-SS-30
K162701-06 (Soil)

Date Sampled
 06/27/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/27/2016	06/27/2016 16:54	EPA 8260B	



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SB16-SS-30

K162701-06 (Soil)

Date Sampled
06/27/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	107 %	44.1-130	06/27/2016	06/27/2016 16:54	EPA 8260B
Surrogate: Toluene-d8	107 %	42-136	06/27/2016	06/27/2016 16:54	EPA 8260B
Surrogate: 4-Bromofluorobenzene	107 %	54.2-145	06/27/2016	06/27/2016 16:54	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	67.7	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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 Project Number: 2754

SBFD1-062716

Date Sampled

K162701-07 (Soil)

06/27/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/27/2016	06/27/2016 17:20	EPA 8260B	



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SBFD1-062716

Date Sampled

K162701-07 (Soil)

06/27/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	105 %		44.1-130		06/27/2016	06/27/2016 17:20	EPA 8260B	
Surrogate: Toluene-d8	102 %		42-136		06/27/2016	06/27/2016 17:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	108 %		54.2-145		06/27/2016	06/27/2016 17:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	91.2	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B	
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW6-SS-05
K162702-01 (Soil)

Date Sampled
06/27/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	06/27/2016	06/27/2016 19:26	EPA 8260B	



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MW6-SS-05

K162702-01 (Soil)

Date Sampled
06/27/2016 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	122 %	44.1-130	06/27/2016	06/27/2016 19:26	EPA 8260B
Surrogate: Toluene-d8	119 %	42-136	06/27/2016	06/27/2016 19:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	109 %	54.2-145	06/27/2016	06/27/2016 19:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	85.2	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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 Project Number: 2754

MW6-SS-10
K162702-02 (Soil)

Date Sampled
 06/27/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Methylene chloride	ND	0.089	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	
Xylenes, total	ND	0.066	mg/kg dry	1	06/27/2016	06/27/2016 19:52	EPA 8260B	



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MW6-SS-10
K162702-02 (Soil)

Date Sampled
06/27/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	111 %	44.1-130		06/27/2016	06/27/2016 19:52	EPA 8260B
Surrogate: Toluene-d8	111 %	42-136		06/27/2016	06/27/2016 19:52	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145		06/27/2016	06/27/2016 19:52	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	86.3	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW6-SS-15
K162702-03 (Soil)

Date Sampled
 06/27/2016 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	06/27/2016	06/27/2016 20:17	EPA 8260B	



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MW6-SS-15

K162702-03 (Soil)

Date Sampled
06/27/2016 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606002						
Surrogate: 1-Bromo-2-chloroethane	114 %		44.1-130		06/27/2016	06/27/2016 20:17	EPA 8260B
Surrogate: Toluene-d8	114 %		42-136		06/27/2016	06/27/2016 20:17	EPA 8260B
Surrogate: 4-Bromofluorobenzene	109 %		54.2-145		06/27/2016	06/27/2016 20:17	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606003						
% Solids	92.1	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW6-SS-20
K162702-04 (Soil)

Date Sampled
 06/27/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Methylene chloride	ND	0.089	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	06/27/2016	06/27/2016 20:42	EPA 8260B	



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MW6-SS-20

K162702-04 (Soil)

Date Sampled
06/27/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

<i>Surrogate: 1-Bromo-2-chloroethane</i>	115 %		44.1-130		06/27/2016	06/27/2016 20:42	EPA 8260B
<i>Surrogate: Toluene-d8</i>	113 %		42-136		06/27/2016	06/27/2016 20:42	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene</i>	98.2 %		54.2-145		06/27/2016	06/27/2016 20:42	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	85.2	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

MW6-SS-25
K162702-05 (Soil)

Date Sampled
06/27/2016 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	06/27/2016	06/27/2016 21:08	EPA 8260B	



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MW6-SS-25

K162702-05 (Soil)

Date Sampled
06/27/2016 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	106 %		44.1-130		06/27/2016	06/27/2016 21:08	EPA 8260B	
Surrogate: Toluene-d8	106 %		42-136		06/27/2016	06/27/2016 21:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	105 %		54.2-145		06/27/2016	06/27/2016 21:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	87.1	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B	
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 Project Number: 2754

MW6-SS-30
K162702-06 (Soil)

Date Sampled
 06/27/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	06/27/2016	06/27/2016 21:33	EPA 8260B	



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MW6-SS-30

K162702-06 (Soil)

Date Sampled
06/27/2016 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	110 %	44.1-130	06/27/2016	06/27/2016 21:33	EPA 8260B
Surrogate: Toluene-d8	102 %	42-136	06/27/2016	06/27/2016 21:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.9 %	54.2-145	06/27/2016	06/27/2016 21:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	64.7	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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Project Number: 2754

MW6-SS-35
K162702-07 (Soil)

Date Sampled
06/27/2016 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	06/27/2016	06/27/2016 21:58	EPA 8260B	



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MW6-SS-35

K162702-07 (Soil)

Date Sampled
06/27/2016 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	105 %	44.1-130	06/27/2016	06/27/2016 21:58	EPA 8260B
Surrogate: Toluene-d8	103 %	42-136	06/27/2016	06/27/2016 21:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.6 %	54.2-145	06/27/2016	06/27/2016 21:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	67.6	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW6-SS-40
K162702-08 (Soil)

Date Sampled
 06/27/2016 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	06/27/2016	06/27/2016 22:23	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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MW6-SS-40

K162702-08 (Soil)

Date Sampled
06/27/2016 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	95.8 %	44.1-130	06/27/2016	06/27/2016 22:23	EPA 8260B
Surrogate: Toluene-d8	98.6 %	42-136	06/27/2016	06/27/2016 22:23	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.9 %	54.2-145	06/27/2016	06/27/2016 22:23	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	63.5	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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 Project Number: 2754

MW6-SS-45
K162702-09 (Soil)

Date Sampled
06/27/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	06/27/2016	06/27/2016 22:49	EPA 8260B	



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MW6-SS-45

K162702-09 (Soil)

Date Sampled
06/27/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	101 %	44.1-130	06/27/2016	06/27/2016 22:49	EPA 8260B
Surrogate: Toluene-d8	99.5 %	42-136	06/27/2016	06/27/2016 22:49	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.4 %	54.2-145	06/27/2016	06/27/2016 22:49	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	64.9	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B
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 Project Number: 2754

MW6-SS-50
K162702-10 (Soil)

Date Sampled
 06/27/2016 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/27/2016	06/27/2016 23:14	EPA 8260B	



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MW6-SS-50
K162702-10 (Soil)

Date Sampled
06/27/2016 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

Surrogate: 1-Bromo-2-chloroethane	106 %		44.1-130		06/27/2016	06/27/2016 23:14	EPA 8260B	
Surrogate: Toluene-d8	103 %		42-136		06/27/2016	06/27/2016 23:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	103 %		54.2-145		06/27/2016	06/27/2016 23:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	72.2	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B	
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 Project Number: 2754

SB-FD2-062716

Date Sampled

K162702-11 (Soil)

06/27/2016 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	
Xylenes, total	ND	0.080	mg/kg dry	1	06/27/2016	06/28/2016 00:29	EPA 8260B	



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SB-FD2-062716

Date Sampled

K162702-11 (Soil)

06/27/2016 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606002

<i>Surrogate: 1-Bromo-2-chloroethane</i>	98.8 %		44.1-130		06/27/2016	06/28/2016 00:29	EPA 8260B	
<i>Surrogate: Toluene-d8</i>	97.9 %		42-136		06/27/2016	06/28/2016 00:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>	97.1 %		54.2-145		06/27/2016	06/28/2016 00:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606003

% Solids	66.6	0.00	% by Weight	1	06/27/2016	06/28/2016 09:10	SM 2540B	
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 Project Number: 2754

SB17-SS-05
K162703-01 (Soil)

Date Sampled
 06/28/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Methylene chloride	ND	0.088	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	
Xylenes, total	ND	0.066	mg/kg dry	1	06/28/2016	06/28/2016 22:41	EPA 8260B	



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SB17-SS-05
K162703-01 (Soil)

Date Sampled
06/28/2016 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject				Preparation Batch: K606004			
Surrogate: 1-Bromo-2-chloroethane	93.3 %		44.1-130		06/28/2016	06/28/2016 22:41	EPA 8260B
Surrogate: Toluene-d8	97.2 %		42-136		06/28/2016	06/28/2016 22:41	EPA 8260B
Surrogate: 4-Bromofluorobenzene	100 %		54.2-145		06/28/2016	06/28/2016 22:41	EPA 8260B

Classical Chemistry Parameters				Preparation Batch: K606005			
% Solids	82.5	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B



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 Project Number: 2754

SB17-SS-10
K162703-02 (Soil)

Date Sampled
 06/28/2016 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	06/28/2016	06/28/2016 19:45	EPA 8260B	



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SB17-SS-10
K162703-02 (Soil)

Date Sampled
 06/28/2016 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	95.9 %	44.1-130	06/28/2016	06/28/2016 19:45	EPA 8260B
Surrogate: Toluene-d8	103 %	42-136	06/28/2016	06/28/2016 19:45	EPA 8260B
Surrogate: 4-Bromofluorobenzene	101 %	54.2-145	06/28/2016	06/28/2016 19:45	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	82.7	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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 Project Number: 2754

SB17-SS-15
K162703-03 (Soil)

Date Sampled
 06/28/2016 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	06/28/2016	06/28/2016 20:10	EPA 8260B	



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SB17-SS-15
K162703-03 (Soil)

Date Sampled
 06/28/2016 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	97.8 %	44.1-130	06/28/2016	06/28/2016 20:10	EPA 8260B
Surrogate: Toluene-d8	101 %	42-136	06/28/2016	06/28/2016 20:10	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.0 %	54.2-145	06/28/2016	06/28/2016 20:10	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	79.8	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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 Project Number: 2754

SB17-SS-20
K162703-04 (Soil)

Date Sampled
 06/28/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	06/28/2016	06/29/2016 00:21	EPA 8260B	



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SB17-SS-20

K162703-04 (Soil)

Date Sampled
06/28/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	94.0 %	44.1-130	06/28/2016	06/29/2016 00:21	EPA 8260B
Surrogate: Toluene-d8	101 %	42-136	06/28/2016	06/29/2016 00:21	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.7 %	54.2-145	06/28/2016	06/29/2016 00:21	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	81.1	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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 Project Number: 2754

SB17-SS-25
K162703-05 (Soil)

Date Sampled
 06/28/2016 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	06/28/2016	06/29/2016 00:46	EPA 8260B	



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SB17-SS-25

K162703-05 (Soil)

Date Sampled
06/28/2016 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	90.7 %		44.1-130		06/28/2016	06/29/2016 00:46	EPA 8260B	
Surrogate: Toluene-d8	95.0 %		42-136		06/28/2016	06/29/2016 00:46	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.6 %		54.2-145		06/28/2016	06/29/2016 00:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	80.0	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B	
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 Project Number: 2754

SB17-SS-30
K162703-06 (Soil)

Date Sampled
 06/28/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Chloromethane	ND	0.045	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
m,p-Xylene	ND	0.045	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Methylene chloride	ND	0.090	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	06/28/2016	06/29/2016 01:11	EPA 8260B	



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SB17-SS-30

K162703-06 (Soil)

Date Sampled
06/28/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	93.2 %		44.1-130		06/28/2016	06/29/2016 01:11	EPA 8260B
Surrogate: Toluene-d8	100 %		42-136		06/28/2016	06/29/2016 01:11	EPA 8260B
Surrogate: 4-Bromofluorobenzene	105 %		54.2-145		06/28/2016	06/29/2016 01:11	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	81.1	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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SB17-SS-35
K162703-07 (Soil)

Date Sampled
06/28/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/28/2016	06/29/2016 01:36	EPA 8260B	



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SB17-SS-35

K162703-07 (Soil)

Date Sampled
06/28/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	90.2 %	44.1-130	06/28/2016	06/29/2016 01:36	EPA 8260B
Surrogate: Toluene-d8	101 %	42-136	06/28/2016	06/29/2016 01:36	EPA 8260B
Surrogate: 4-Bromofluorobenzene	101 %	54.2-145	06/28/2016	06/29/2016 01:36	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	80.2	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB17-SS-40
K162703-08 (Soil)

Date Sampled
 06/28/2016 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,1,2-Trichloroethane	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,1-Dichloroethane	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,1-Dichloroethene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,2-Dichlorobenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,2-Dichloroethane	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,3-Dichlorobenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
1,4-Dichlorobenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
2-Chlorotoluene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
4-Chlorotoluene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Benzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Carbon tetrachloride	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Chlorobenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Chloroform	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Chloromethane	ND	0.039	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Ethylbenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Isopropylbenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
m,p-Xylene	ND	0.039	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Methylene chloride	ND	0.079	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Naphthalene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
n-Butyl Benzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
n-Propyl Benzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
o-Xylene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
p-Isopropyltoluene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
sec-Butyl Benzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Styrene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
tert-Butylbenzene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Tetrachloroethene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Toluene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Trichloroethene	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Vinyl chloride	ND	0.020	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	
Xylenes, total	ND	0.059	mg/kg dry	1	06/28/2016	06/28/2016 20:35	EPA 8260B	



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SB17-SS-40
K162703-08 (Soil)

Date Sampled
 06/28/2016 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	100 %	44.1-130	06/28/2016	06/28/2016 20:35	EPA 8260B
Surrogate: Toluene-d8	106 %	42-136	06/28/2016	06/28/2016 20:35	EPA 8260B
Surrogate: 4-Bromofluorobenzene	100 %	54.2-145	06/28/2016	06/28/2016 20:35	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	83.1	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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SB17-SS-45
K162703-09 (Soil)

Date Sampled
 06/28/2016 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,1,2-Trichloroethane	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,1-Dichloroethane	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,1-Dichloroethene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,2-Dichlorobenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,2-Dichloroethane	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,3-Dichlorobenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
1,4-Dichlorobenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
2-Chlorotoluene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
4-Chlorotoluene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Benzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Carbon tetrachloride	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Chlorobenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Chloroform	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Chloromethane	ND	0.042	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Ethylbenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Isopropylbenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
m,p-Xylene	ND	0.042	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Methylene chloride	ND	0.084	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Naphthalene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
n-Butyl Benzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
n-Propyl Benzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
o-Xylene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
p-Isopropyltoluene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
sec-Butyl Benzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Styrene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
tert-Butylbenzene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Tetrachloroethene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Toluene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Trichloroethene	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Vinyl chloride	ND	0.021	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	
Xylenes, total	ND	0.063	mg/kg dry	1	06/28/2016	06/29/2016 02:01	EPA 8260B	



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SB17-SS-45

K162703-09 (Soil)

Date Sampled
06/28/2016 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	93.2 %		44.1-130		06/28/2016	06/29/2016 02:01	EPA 8260B	
Surrogate: Toluene-d8	97.7 %		42-136		06/28/2016	06/29/2016 02:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	108 %		54.2-145		06/28/2016	06/29/2016 02:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	87.1	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B	
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SB17-SS-50
K162703-10 (Soil)

Date Sampled
06/28/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/28/2016	06/29/2016 02:26	EPA 8260B	



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SB17-SS-50

K162703-10 (Soil)

Date Sampled
06/28/2016 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	94.2 %	44.1-130	06/28/2016	06/29/2016 02:26	EPA 8260B
Surrogate: Toluene-d8	102 %	42-136	06/28/2016	06/29/2016 02:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	103 %	54.2-145	06/28/2016	06/29/2016 02:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	69.1	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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 Project Number: 2754

SB17-SS-55
K162703-11 (Soil)

Date Sampled
06/28/2016 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	06/28/2016	06/29/2016 02:51	EPA 8260B	



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SB17-SS-55

K162703-11 (Soil)

Date Sampled
06/28/2016 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	91.5 %	44.1-130	06/28/2016	06/29/2016 02:51	EPA 8260B
Surrogate: Toluene-d8	95.5 %	42-136	06/28/2016	06/29/2016 02:51	EPA 8260B
Surrogate: 4-Bromofluorobenzene	107 %	54.2-145	06/28/2016	06/29/2016 02:51	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	71.5	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB17-SS-60
K162703-12 (Soil)

Date Sampled
 06/28/2016 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	06/28/2016	06/28/2016 21:00	EPA 8260B	



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SB17-SS-60

K162703-12 (Soil)

Date Sampled
06/28/2016 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	96.6 %		44.1-130		06/28/2016	06/28/2016 21:00	EPA 8260B	
Surrogate: Toluene-d8	98.3 %		42-136		06/28/2016	06/28/2016 21:00	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	101 %		54.2-145		06/28/2016	06/28/2016 21:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	60.3	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B	
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 Project Number: 2754

SB17-SS-65
K162703-13 (Soil)

Date Sampled
 06/28/2016 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
4-Chlorotoluene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Benzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Chloromethane	ND	0.057	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
m,p-Xylene	ND	0.057	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
n-Butyl Benzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
o-Xylene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	
Xylenes, total	ND	0.086	mg/kg dry	1	06/28/2016	06/28/2016 21:26	EPA 8260B	



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SB17-SS-65

K162703-13 (Soil)

Date Sampled
06/28/2016 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	92.2 %	44.1-130	06/28/2016	06/28/2016 21:26	EPA 8260B
Surrogate: Toluene-d8	96.9 %	42-136	06/28/2016	06/28/2016 21:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	97.7 %	54.2-145	06/28/2016	06/28/2016 21:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	62.4	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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SB17-SS-70
K162703-14 (Soil)

Date Sampled
 06/28/2016 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/28/2016	06/29/2016 03:16	EPA 8260B	



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SB17-SS-70

K162703-14 (Soil)

Date Sampled
06/28/2016 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	88.8 %		44.1-130		06/28/2016	06/29/2016 03:16	EPA 8260B
Surrogate: Toluene-d8	98.7 %		42-136		06/28/2016	06/29/2016 03:16	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.1 %		54.2-145		06/28/2016	06/29/2016 03:16	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	67.6	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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 Project Number: 2754

SB17-SS-75
K162703-15 (Soil)

Date Sampled
 06/28/2016 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Chloromethane	ND	0.053	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
m,p-Xylene	ND	0.053	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	06/28/2016	06/28/2016 21:51	EPA 8260B	



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SB17-SS-75

K162703-15 (Soil)

Date Sampled
06/28/2016 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	95.7 %		44.1-130		06/28/2016	06/28/2016 21:51	EPA 8260B	
Surrogate: Toluene-d8	97.6 %		42-136		06/28/2016	06/28/2016 21:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.2 %		54.2-145		06/28/2016	06/28/2016 21:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	61.7	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B	
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SB17-SS-80
K162703-16 (Soil)

Date Sampled
 06/28/2016 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	06/28/2016	06/28/2016 22:16	EPA 8260B	



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SB17-SS-80

K162703-16 (Soil)

Date Sampled
06/28/2016 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606004			
Surrogate: 1-Bromo-2-chloroethane	100 %	44.1-130	06/28/2016	06/28/2016 22:16 EPA 8260B
Surrogate: Toluene-d8	99.6 %	42-136	06/28/2016	06/28/2016 22:16 EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	06/28/2016	06/28/2016 22:16 EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606005			
% Solids	64.3	0.00	% by Weight	1 06/28/2016 06/29/2016 10:45 SM 2540B



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 Project Number: 2754

SB-FD1-062816

Date Sampled

K162703-17 (Soil)

06/28/2016 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	06/28/2016	06/29/2016 03:41	EPA 8260B	



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SB-FD1-062816

Date Sampled

K162703-17 (Soil)

06/28/2016 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606004

Surrogate: 1-Bromo-2-chloroethane	93.6 %	44.1-130	06/28/2016	06/29/2016 03:41	EPA 8260B
Surrogate: Toluene-d8	96.6 %	42-136	06/28/2016	06/29/2016 03:41	EPA 8260B
Surrogate: 4-Bromofluorobenzene	119 %	54.2-145	06/28/2016	06/29/2016 03:41	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606005

% Solids	79.7	0.00	% by Weight	1	06/28/2016	06/29/2016 10:45	SM 2540B
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 Project Number: 2754

SB15-SS-05
K162704-01 (Soil)

Date Sampled
 06/30/2016 07:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Chloromethane	ND	0.044	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
m,p-Xylene	ND	0.044	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Methylene chloride	ND	0.089	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	
Xylenes, total	ND	0.067	mg/kg dry	1	06/30/2016	06/30/2016 14:17	EPA 8260B	



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SB15-SS-05

K162704-01 (Soil)

Date Sampled
06/30/2016 07:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	96.5 %	44.1-130	06/30/2016	06/30/2016 14:17	EPA 8260B
Surrogate: Toluene-d8	93.9 %	42-136	06/30/2016	06/30/2016 14:17	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.9 %	54.2-145	06/30/2016	06/30/2016 14:17	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	80.3	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB15-SS-10
K162704-02 (Soil)

Date Sampled
 06/30/2016 07:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	06/30/2016	06/30/2016 14:44	EPA 8260B	



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SB15-SS-10
K162704-02 (Soil)

Date Sampled
 06/30/2016 07:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	88.6 %	44.1-130	06/30/2016	06/30/2016 14:44	EPA 8260B
Surrogate: Toluene-d8	92.3 %	42-136	06/30/2016	06/30/2016 14:44	EPA 8260B
Surrogate: 4-Bromofluorobenzene	88.3 %	54.2-145	06/30/2016	06/30/2016 14:44	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	80.9	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB15-SS-15
K162704-03 (Soil)

Date Sampled
 06/30/2016 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,1-Dichloroethane	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,1-Dichloroethene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,2-Dichloroethane	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
2-Chlorotoluene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
4-Chlorotoluene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Benzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Carbon tetrachloride	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Chlorobenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Chloroform	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Chloromethane	ND	0.043	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Ethylbenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Isopropylbenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
m,p-Xylene	ND	0.043	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Methylene chloride	ND	0.086	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Naphthalene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
n-Butyl Benzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
n-Propyl Benzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
o-Xylene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
p-Isopropyltoluene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
sec-Butyl Benzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Styrene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
tert-Butylbenzene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Tetrachloroethene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Toluene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Trichloroethene	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Vinyl chloride	ND	0.021	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	
Xylenes, total	ND	0.064	mg/kg dry	1	06/30/2016	06/30/2016 15:11	EPA 8260B	



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SB15-SS-15

K162704-03 (Soil)

Date Sampled
06/30/2016 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	96.6 %		44.1-130		06/30/2016	06/30/2016 15:11	EPA 8260B	
Surrogate: Toluene-d8	95.5 %		42-136		06/30/2016	06/30/2016 15:11	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.3 %		54.2-145		06/30/2016	06/30/2016 15:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	81.9	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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SB15-SS-20
K162704-04 (Soil)

Date Sampled
 06/30/2016 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/30/2016	06/30/2016 15:36	EPA 8260B	



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SB15-SS-20

K162704-04 (Soil)

Date Sampled
06/30/2016 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606006					
Surrogate: 1-Bromo-2-chloroethane	100 %		44.1-130	06/30/2016	06/30/2016 15:36	EPA 8260B
Surrogate: Toluene-d8	98.8 %		42-136	06/30/2016	06/30/2016 15:36	EPA 8260B
Surrogate: 4-Bromofluorobenzene	97.9 %		54.2-145	06/30/2016	06/30/2016 15:36	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606007						
% Solids	74.2	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB15-SS-25
K162704-05 (Soil)

Date Sampled
06/30/2016 08:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	
Xylenes, total	ND	0.082	mg/kg dry	1	06/30/2016	06/30/2016 16:02	EPA 8260B	



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SB15-SS-25

K162704-05 (Soil)

Date Sampled
06/30/2016 08:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	98.1 %	44.1-130	06/30/2016	06/30/2016 16:02	EPA 8260B
Surrogate: Toluene-d8	95.4 %	42-136	06/30/2016	06/30/2016 16:02	EPA 8260B
Surrogate: 4-Bromofluorobenzene	100 %	54.2-145	06/30/2016	06/30/2016 16:02	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	68.2	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project Number: 2754

SB15-SS-30
K162704-06 (Soil)

Date Sampled
06/30/2016 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	06/30/2016	06/30/2016 16:28	EPA 8260B	



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SB15-SS-30

K162704-06 (Soil)

Date Sampled
06/30/2016 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606006				
Surrogate: 1-Bromo-2-chloroethane	100 %	44.1-130	06/30/2016	06/30/2016 16:28	EPA 8260B
Surrogate: Toluene-d8	96.0 %	42-136	06/30/2016	06/30/2016 16:28	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.3 %	54.2-145	06/30/2016	06/30/2016 16:28	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606007						
% Solids	70.5	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B



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 Project Number: 2754

SB15-SS-35
K162704-07 (Soil)

Date Sampled
 06/30/2016 08:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	06/30/2016	06/30/2016 16:53	EPA 8260B	



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SB15-SS-35

K162704-07 (Soil)

Date Sampled
06/30/2016 08:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	95.5 %	44.1-130	06/30/2016	06/30/2016 16:53	EPA 8260B
Surrogate: Toluene-d8	95.0 %	42-136	06/30/2016	06/30/2016 16:53	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.2 %	54.2-145	06/30/2016	06/30/2016 16:53	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	67.1	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB15-SS-40
K162704-08 (Soil)

Date Sampled
 06/30/2016 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	
Xylenes, total	ND	0.075	mg/kg dry	1	06/30/2016	06/30/2016 17:20	EPA 8260B	



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SB15-SS-40

K162704-08 (Soil)

Date Sampled
06/30/2016 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	104 %	44.1-130	06/30/2016	06/30/2016 17:20	EPA 8260B
Surrogate: Toluene-d8	104 %	42-136	06/30/2016	06/30/2016 17:20	EPA 8260B
Surrogate: 4-Bromofluorobenzene	104 %	54.2-145	06/30/2016	06/30/2016 17:20	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	66.9	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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2020 SW 4th Avenue
Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB15-SS-45
K162704-09 (Soil)

Date Sampled
06/30/2016 08:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	06/30/2016	06/30/2016 18:39	EPA 8260B	



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SB15-SS-45
K162704-09 (Soil)

Date Sampled
 06/30/2016 08:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	98.9 %	44.1-130	06/30/2016	06/30/2016 18:39	EPA 8260B
Surrogate: Toluene-d8	94.4 %	42-136	06/30/2016	06/30/2016 18:39	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.2 %	54.2-145	06/30/2016	06/30/2016 18:39	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	67.7	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB15-SS-50
K162704-10 (Soil)

Date Sampled
 06/30/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/30/2016	06/30/2016 19:05	EPA 8260B	



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SB15-SS-50
K162704-10 (Soil)

Date Sampled
06/30/2016 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	97.2 %		44.1-130		06/30/2016	06/30/2016 19:05	EPA 8260B	
Surrogate: Toluene-d8	99.0 %		42-136		06/30/2016	06/30/2016 19:05	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	102 %		54.2-145		06/30/2016	06/30/2016 19:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	67.9	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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Project Number: 2754

SB15-SS-55
K162704-11 (Soil)

Date Sampled
06/30/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/30/2016	06/30/2016 19:33	EPA 8260B	



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SB15-SS-55

K162704-11 (Soil)

Date Sampled
06/30/2016 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

<i>Surrogate: 1-Bromo-2-chloroethane</i>	98.0 %		44.1-130		06/30/2016	06/30/2016 19:33	EPA 8260B
<i>Surrogate: Toluene-d8</i>	101 %		42-136		06/30/2016	06/30/2016 19:33	EPA 8260B
<i>Surrogate: 4-Bromofluorobenzene</i>	98.1 %		54.2-145		06/30/2016	06/30/2016 19:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	69.3	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB15-SS-60
K162704-12 (Soil)

Date Sampled
 06/30/2016 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	06/30/2016	06/30/2016 20:00	EPA 8260B	



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SB15-SS-60

K162704-12 (Soil)

Date Sampled
06/30/2016 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	100 %	44.1-130	06/30/2016	06/30/2016 20:00	EPA 8260B
Surrogate: Toluene-d8	99.3 %	42-136	06/30/2016	06/30/2016 20:00	EPA 8260B
Surrogate: 4-Bromofluorobenzene	100 %	54.2-145	06/30/2016	06/30/2016 20:00	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	81.6	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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SB15-SS-65
K162704-13 (Soil)

Date Sampled
 06/30/2016 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	



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SB15-SS-65

K162704-13 (Soil)

Date Sampled
06/30/2016 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	87.8 %	44.1-130	06/30/2016	06/30/2016 21:45	EPA 8260B
Surrogate: Toluene-d8	89.7 %	42-136	06/30/2016	06/30/2016 21:45	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.2 %	54.2-145	06/30/2016	06/30/2016 21:45	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	69.7	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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SB15-SS-70
K162704-14 (Soil)

Date Sampled
 06/30/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	



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SB15-SS-70

K162704-14 (Soil)

Date Sampled
06/30/2016 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	90.8 %	44.1-130	06/30/2016	06/30/2016 22:11	EPA 8260B
Surrogate: Toluene-d8	95.7 %	42-136	06/30/2016	06/30/2016 22:11	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	06/30/2016	06/30/2016 22:11	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	70.7	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB15-SS-75
K162704-15 (Soil)

Date Sampled
 06/30/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	



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SB15-SS-75

K162704-15 (Soil)

Date Sampled
06/30/2016 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606006				
Surrogate: 1-Bromo-2-chloroethane	93.9 %	44.1-130	06/30/2016	06/30/2016 22:38	EPA 8260B
Surrogate: Toluene-d8	97.5 %	42-136	06/30/2016	06/30/2016 22:38	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.7 %	54.2-145	06/30/2016	06/30/2016 22:38	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606007						
% Solids	66.5	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B



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 Project Number: 2754

SB15-SS-80
K162704-16 (Soil)

Date Sampled
06/30/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	



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SB15-SS-80

K162704-16 (Soil)

Date Sampled
06/30/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	96.8 %		44.1-130		06/30/2016	06/30/2016 23:04	EPA 8260B	
Surrogate: Toluene-d8	96.6 %		42-136		06/30/2016	06/30/2016 23:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	97.5 %		54.2-145		06/30/2016	06/30/2016 23:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	68.5	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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Project Number: 2754

SB15-SS-85
K162704-17 (Soil)

Date Sampled
06/30/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Benzene	0.037	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	06/30/2016	06/30/2016 23:30	EPA 8260B	



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SB15-SS-85

K162704-17 (Soil)

Date Sampled
06/30/2016 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606006				
Surrogate: 1-Bromo-2-chloroethane	88.2 %	44.1-130	06/30/2016	06/30/2016 23:30	EPA 8260B
Surrogate: Toluene-d8	92.8 %	42-136	06/30/2016	06/30/2016 23:30	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.3 %	54.2-145	06/30/2016	06/30/2016 23:30	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606007						
% Solids	67.8	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B



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 Project Number: 2754

SB15-SS-90
K162704-18 (Soil)

Date Sampled
06/30/2016 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,1,2-Trichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,1-Dichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,1-Dichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,2-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,2-Dichloroethane	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,3-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
1,4-Dichlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
2-Chlorotoluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
4-Chlorotoluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Carbon tetrachloride	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Chlorobenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Chloroform	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Chloromethane	ND	0.043	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Ethylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Isopropylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
m,p-Xylene	ND	0.043	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Methylene chloride	ND	0.087	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Naphthalene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
n-Butyl Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
n-Propyl Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
o-Xylene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
p-Isopropyltoluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
sec-Butyl Benzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Styrene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
tert-Butylbenzene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Tetrachloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Toluene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Trichloroethene	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Vinyl chloride	ND	0.022	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	
Xylenes, total	ND	0.065	mg/kg dry	1	06/30/2016	06/30/2016 23:56	EPA 8260B	



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SB15-SS-90

K162704-18 (Soil)

Date Sampled
06/30/2016 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	91.2 %	44.1-130	06/30/2016	06/30/2016 23:56	EPA 8260B
Surrogate: Toluene-d8	92.5 %	42-136	06/30/2016	06/30/2016 23:56	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.6 %	54.2-145	06/30/2016	06/30/2016 23:56	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	86.6	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB15-SS-95
K162704-19 (Soil)

Date Sampled
 06/30/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/30/2016	07/01/2016 00:22	EPA 8260B	



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SB15-SS-95

K162704-19 (Soil)

Date Sampled
06/30/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	95.9 %	44.1-130	06/30/2016	07/01/2016 00:22	EPA 8260B
Surrogate: Toluene-d8	94.9 %	42-136	06/30/2016	07/01/2016 00:22	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.6 %	54.2-145	06/30/2016	07/01/2016 00:22	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	86.8	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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SB-FD1-063016
K162704-20 (Soil)

Date Sampled
 06/30/2016 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	06/30/2016	07/01/2016 00:48	EPA 8260B	



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SB-FD1-063016

Date Sampled

K162704-20 (Soil)

06/30/2016 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	93.8 %		44.1-130		06/30/2016	07/01/2016 00:48	EPA 8260B	
Surrogate: Toluene-d8	97.9 %		42-136		06/30/2016	07/01/2016 00:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	98.8 %		54.2-145		06/30/2016	07/01/2016 00:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	66.6	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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 Project Number: 2754

SB-FD2-063016
K162704-21 (Soil)

Date Sampled
 06/30/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	06/30/2016	07/01/2016 02:59	EPA 8260B	



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SB-FD2-063016

Date Sampled

K162704-21 (Soil)

06/30/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	90.1 %		44.1-130		06/30/2016	07/01/2016 02:59	EPA 8260B	
Surrogate: Toluene-d8	94.2 %		42-136		06/30/2016	07/01/2016 02:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.1 %		54.2-145		06/30/2016	07/01/2016 02:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	69.5	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB18-SS-05
K162705-01 (Soil)

Date Sampled
 06/30/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/30/2016	07/01/2016 03:50	EPA 8260B	



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SB18-SS-05

K162705-01 (Soil)

Date Sampled
06/30/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	92.2 %	44.1-130	06/30/2016	07/01/2016 03:50	EPA 8260B
Surrogate: Toluene-d8	96.6 %	42-136	06/30/2016	07/01/2016 03:50	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.5 %	54.2-145	06/30/2016	07/01/2016 03:50	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	86.4	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB18-SS-10
K162705-02 (Soil)

Date Sampled
 06/30/2016 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	06/30/2016	07/01/2016 04:16	EPA 8260B	



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SB18-SS-10

K162705-02 (Soil)

Date Sampled
06/30/2016 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	95.4 %	44.1-130	06/30/2016	07/01/2016 04:16	EPA 8260B
Surrogate: Toluene-d8	98.4 %	42-136	06/30/2016	07/01/2016 04:16	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.9 %	54.2-145	06/30/2016	07/01/2016 04:16	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	83.2	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB18-SS-15
K162705-03 (Soil)

Date Sampled
 06/30/2016 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	06/30/2016	07/01/2016 04:42	EPA 8260B	



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SB18-SS-15
K162705-03 (Soil)

Date Sampled
 06/30/2016 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	92.7 %	44.1-130	06/30/2016	07/01/2016 04:42	EPA 8260B
Surrogate: Toluene-d8	96.4 %	42-136	06/30/2016	07/01/2016 04:42	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.7 %	54.2-145	06/30/2016	07/01/2016 04:42	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	67.1	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project Number: 2754

SB18-SS-20
K162705-04 (Soil)

Date Sampled
06/30/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	06/30/2016	07/01/2016 05:08	EPA 8260B	



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SB18-SS-20

K162705-04 (Soil)

Date Sampled
06/30/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	97.3 %	44.1-130	06/30/2016	07/01/2016 05:08	EPA 8260B
Surrogate: Toluene-d8	99.4 %	42-136	06/30/2016	07/01/2016 05:08	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.7 %	54.2-145	06/30/2016	07/01/2016 05:08	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	69.2	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB18-SS-25
K162705-05 (Soil)

Date Sampled
 06/30/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	06/30/2016	07/01/2016 05:33	EPA 8260B	



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SB18-SS-25
K162705-05 (Soil)

Date Sampled
 06/30/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	88.5 %	44.1-130	06/30/2016	07/01/2016 05:33	EPA 8260B
Surrogate: Toluene-d8	92.2 %	42-136	06/30/2016	07/01/2016 05:33	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.3 %	54.2-145	06/30/2016	07/01/2016 05:33	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	70.2	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB18-SS-30
K162705-06 (Soil)

Date Sampled
 06/30/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	
Xylenes, total	ND	0.078	mg/kg dry	1	06/30/2016	07/01/2016 05:59	EPA 8260B	



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SB18-SS-30

K162705-06 (Soil)

Date Sampled
06/30/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606006				
Surrogate: 1-Bromo-2-chloroethane	90.6 %	44.1-130	06/30/2016	07/01/2016 05:59	EPA 8260B
Surrogate: Toluene-d8	89.3 %	42-136	06/30/2016	07/01/2016 05:59	EPA 8260B
Surrogate: 4-Bromofluorobenzene	91.1 %	54.2-145	06/30/2016	07/01/2016 05:59	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606007						
% Solids	75.9	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB18-SS-35
K162705-07 (Soil)

Date Sampled
06/30/2016 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Carbon tetrachloride	0.043	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	
Xylenes, total	ND	0.084	mg/kg dry	1	06/30/2016	07/01/2016 06:25	EPA 8260B	



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SB18-SS-35

K162705-07 (Soil)

Date Sampled
06/30/2016 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	91.0 %	44.1-130	06/30/2016	07/01/2016 06:25	EPA 8260B
Surrogate: Toluene-d8	89.8 %	42-136	06/30/2016	07/01/2016 06:25	EPA 8260B
Surrogate: 4-Bromofluorobenzene	88.4 %	54.2-145	06/30/2016	07/01/2016 06:25	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	63.8	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB18-SS-40
K162705-08 (Soil)

Date Sampled
 06/30/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Carbon tetrachloride	0.035	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/30/2016	07/01/2016 06:50	EPA 8260B	



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SB18-SS-40
K162705-08 (Soil)

Date Sampled
 06/30/2016 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	89.9 %	44.1-130	06/30/2016	07/01/2016 06:50	EPA 8260B
Surrogate: Toluene-d8	91.7 %	42-136	06/30/2016	07/01/2016 06:50	EPA 8260B
Surrogate: 4-Bromofluorobenzene	90.6 %	54.2-145	06/30/2016	07/01/2016 06:50	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	66.8	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB18-SS-45
K162705-09 (Soil)

Date Sampled
 06/30/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	LC
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	06/30/2016	07/01/2016 08:58	EPA 8260B	



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SB18-SS-45

K162705-09 (Soil)

Date Sampled
06/30/2016 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	95.3 %	44.1-130	06/30/2016	07/01/2016 08:58	EPA 8260B
Surrogate: Toluene-d8	98.5 %	42-136	06/30/2016	07/01/2016 08:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.1 %	54.2-145	06/30/2016	07/01/2016 08:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	68.6	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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SB18-SS-50
K162705-10 (Soil)

Date Sampled
 06/30/2016 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	LC
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/30/2016	07/01/2016 09:24	EPA 8260B	



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SB18-SS-50

K162705-10 (Soil)

Date Sampled
06/30/2016 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606006

Surrogate: 1-Bromo-2-chloroethane	93.7 %	44.1-130	06/30/2016	07/01/2016 09:24	EPA 8260B
Surrogate: Toluene-d8	96.9 %	42-136	06/30/2016	07/01/2016 09:24	EPA 8260B
Surrogate: 4-Bromofluorobenzene	90.2 %	54.2-145	06/30/2016	07/01/2016 09:24	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	67.5	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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SB19-SS-05
K162706-01 (Soil)

Date Sampled
 06/30/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	06/30/2016	06/30/2016 19:59	EPA 8260B	



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 608.221.8700 Phone
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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB19-SS-05
K162706-01 (Soil)

Date Sampled
 06/30/2016 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	90.6 %		44.1-130		06/30/2016	06/30/2016 19:59	EPA 8260B	
Surrogate: Toluene-d8	92.3 %		42-136		06/30/2016	06/30/2016 19:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	96.1 %		54.2-145		06/30/2016	06/30/2016 19:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	83.3	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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CH2M
2020 SW 4th Avenue
Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB19-SS-10
K162706-02 (Soil)

Date Sampled
06/30/2016 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	06/30/2016	06/30/2016 20:26	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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SB19-SS-10
K162706-02 (Soil)

Date Sampled
 06/30/2016 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	95.4 %	44.1-130	06/30/2016	06/30/2016 20:26	EPA 8260B
Surrogate: Toluene-d8	96.1 %	42-136	06/30/2016	06/30/2016 20:26	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.8 %	54.2-145	06/30/2016	06/30/2016 20:26	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	80.7	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

SB19-SS-15
K162706-03 (Soil)

Date Sampled
06/30/2016 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Methylene chloride	ND	0.095	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	
Xylenes, total	ND	0.071	mg/kg dry	1	06/30/2016	06/30/2016 20:53	EPA 8260B	



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SB19-SS-15

K162706-03 (Soil)

Date Sampled
06/30/2016 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K606008					
Surrogate: 1-Bromo-2-chloroethane	99.9 %		44.1-130		06/30/2016 06/30/2016 20:53	EPA 8260B
Surrogate: Toluene-d8	101 %		42-136		06/30/2016 06/30/2016 20:53	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.1 %		54.2-145		06/30/2016 06/30/2016 20:53	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K606007					
% Solids	85.6	0.00	% by Weight	1	06/30/2016 07/01/2016 09:09	SM 2540B



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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB19-SS-20
K162706-04 (Soil)

Date Sampled
 06/30/2016 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	06/30/2016	06/30/2016 21:19	EPA 8260B	



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SB19-SS-20
K162706-04 (Soil)

Date Sampled
 06/30/2016 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	94.7 %	44.1-130	06/30/2016	06/30/2016 21:19	EPA 8260B
Surrogate: Toluene-d8	95.1 %	42-136	06/30/2016	06/30/2016 21:19	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.5 %	54.2-145	06/30/2016	06/30/2016 21:19	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	71.7	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB19-SS-25
K162706-05 (Soil)

Date Sampled
 06/30/2016 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Chloromethane	ND	0.056	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
m,p-Xylene	ND	0.056	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	06/30/2016	06/30/2016 21:45	EPA 8260B	



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SB19-SS-25

K162706-05 (Soil)

Date Sampled
06/30/2016 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	92.3 %	44.1-130	06/30/2016	06/30/2016 21:45	EPA 8260B
Surrogate: Toluene-d8	91.6 %	42-136	06/30/2016	06/30/2016 21:45	EPA 8260B
Surrogate: 4-Bromofluorobenzene	93.3 %	54.2-145	06/30/2016	06/30/2016 21:45	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	68.5	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB19-SS-30
K162706-06 (Soil)

Date Sampled
 06/30/2016 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
4-Chlorotoluene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Benzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Chloromethane	ND	0.058	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
m,p-Xylene	ND	0.058	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
n-Butyl Benzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
o-Xylene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	
Xylenes, total	ND	0.088	mg/kg dry	1	06/30/2016	06/30/2016 22:11	EPA 8260B	



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SB19-SS-30

K162706-06 (Soil)

Date Sampled
06/30/2016 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	91.6 %	44.1-130	06/30/2016	06/30/2016 22:11	EPA 8260B
Surrogate: Toluene-d8	90.0 %	42-136	06/30/2016	06/30/2016 22:11	EPA 8260B
Surrogate: 4-Bromofluorobenzene	110 %	54.2-145	06/30/2016	06/30/2016 22:11	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	66.0	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB19-SS-35
K162706-07 (Soil)

Date Sampled
 06/30/2016 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	06/30/2016	06/30/2016 22:38	EPA 8260B	



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SB19-SS-35

K162706-07 (Soil)

Date Sampled
06/30/2016 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	94.9 %	44.1-130	06/30/2016	06/30/2016 22:38	EPA 8260B
Surrogate: Toluene-d8	95.9 %	42-136	06/30/2016	06/30/2016 22:38	EPA 8260B
Surrogate: 4-Bromofluorobenzene	98.1 %	54.2-145	06/30/2016	06/30/2016 22:38	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	74.1	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 Project Number: 2754

SB19-SS-40
K162706-08 (Soil)

Date Sampled
 06/30/2016 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	06/30/2016	06/30/2016 23:04	EPA 8260B	



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SB19-SS-40
K162706-08 (Soil)

Date Sampled
 06/30/2016 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	91.1 %	44.1-130	06/30/2016	06/30/2016 23:04	EPA 8260B
Surrogate: Toluene-d8	93.4 %	42-136	06/30/2016	06/30/2016 23:04	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.0 %	54.2-145	06/30/2016	06/30/2016 23:04	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	73.1	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B
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 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB-FD3-063016

Date Sampled

K162706-09 (Soil)

06/30/2016 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Chloromethane	ND	0.050	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
m,p-Xylene	ND	0.050	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	
Xylenes, total	ND	0.076	mg/kg dry	1	06/30/2016	07/01/2016 00:47	EPA 8260B	



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SB-FD3-063016

Date Sampled

K162706-09 (Soil)

06/30/2016 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K606008

Surrogate: 1-Bromo-2-chloroethane	95.5 %		44.1-130		06/30/2016	07/01/2016 00:47	EPA 8260B	
Surrogate: Toluene-d8	99.0 %		42-136		06/30/2016	07/01/2016 00:47	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	94.9 %		54.2-145		06/30/2016	07/01/2016 00:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K606007

% Solids	70.2	0.00	% by Weight	1	06/30/2016	07/01/2016 09:09	SM 2540B	
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 Project Number: 2754

MW2-SS-05
K162707-01 (Soil)

Date Sampled
07/01/2016 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	07/01/2016	07/01/2016 14:32	EPA 8260B	



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MW2-SS-05

K162707-01 (Soil)

Date Sampled
07/01/2016 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	90.2 %	44.1-130	07/01/2016	07/01/2016 14:32	EPA 8260B
Surrogate: Toluene-d8	92.9 %	42-136	07/01/2016	07/01/2016 14:32	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.2 %	54.2-145	07/01/2016	07/01/2016 14:32	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	88.1	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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 Project Number: 2754

MW2-SS-10
K162707-02 (Soil)

Date Sampled
 07/01/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,1,2-Trichloroethane	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,1-Dichloroethane	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,1-Dichloroethene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,2-Dichlorobenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,2-Dichloroethane	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,3-Dichlorobenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
1,4-Dichlorobenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
2-Chlorotoluene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
4-Chlorotoluene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Benzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Carbon tetrachloride	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Chlorobenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Chloroform	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Chloromethane	ND	0.055	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Ethylbenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Isopropylbenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
m,p-Xylene	ND	0.055	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Naphthalene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
n-Butyl Benzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
n-Propyl Benzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
o-Xylene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
p-Isopropyltoluene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
sec-Butyl Benzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Styrene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
tert-Butylbenzene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Tetrachloroethene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Toluene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Trichloroethene	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Vinyl chloride	ND	0.028	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	
Xylenes, total	ND	0.083	mg/kg dry	1	07/01/2016	07/01/2016 14:58	EPA 8260B	



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MW2-SS-10

K162707-02 (Soil)

Date Sampled
07/01/2016 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	91.8 %	44.1-130	07/01/2016	07/01/2016 14:58	EPA 8260B
Surrogate: Toluene-d8	95.0 %	42-136	07/01/2016	07/01/2016 14:58	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.0 %	54.2-145	07/01/2016	07/01/2016 14:58	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	70.9	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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Project Number: 2754

MW2-SS-15
K162707-03 (Soil)

Date Sampled
07/01/2016 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Methylene chloride	ND	0.096	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	
Xylenes, total	ND	0.072	mg/kg dry	1	07/01/2016	07/01/2016 15:23	EPA 8260B	



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MW2-SS-15

K162707-03 (Soil)

Date Sampled
07/01/2016 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject	Preparation Batch: K607001						
Surrogate: 1-Bromo-2-chloroethane	99.1 %		44.1-130		07/01/2016	07/01/2016 15:23	EPA 8260B
Surrogate: Toluene-d8	97.1 %		42-136		07/01/2016	07/01/2016 15:23	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.0 %		54.2-145		07/01/2016	07/01/2016 15:23	EPA 8260B

Classical Chemistry Parameters	Preparation Batch: K607002						
% Solids	73.5	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B



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 Project Number: 2754

MW2-SS-20
K162707-04 (Soil)

Date Sampled
07/01/2016 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Methylene chloride	ND	0.091	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	
Xylenes, total	ND	0.068	mg/kg dry	1	07/01/2016	07/01/2016 15:49	EPA 8260B	



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MW2-SS-20

K162707-04 (Soil)

Date Sampled
07/01/2016 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	91.7 %	44.1-130	07/01/2016	07/01/2016 15:49	EPA 8260B
Surrogate: Toluene-d8	96.4 %	42-136	07/01/2016	07/01/2016 15:49	EPA 8260B
Surrogate: 4-Bromofluorobenzene	89.4 %	54.2-145	07/01/2016	07/01/2016 15:49	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	71.6	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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 Project Number: 2754

MW2-SS-25
K162707-05 (Soil)

Date Sampled
 07/01/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Chloromethane	ND	0.047	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
m,p-Xylene	ND	0.047	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Methylene chloride	ND	0.094	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	
Xylenes, total	ND	0.070	mg/kg dry	1	07/01/2016	07/01/2016 14:53	EPA 8260B	



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MW2-SS-25

K162707-05 (Soil)

Date Sampled
07/01/2016 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	90.5 %		44.1-130		07/01/2016	07/01/2016 14:53	EPA 8260B	
Surrogate: Toluene-d8	91.4 %		42-136		07/01/2016	07/01/2016 14:53	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	92.6 %		54.2-145		07/01/2016	07/01/2016 14:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	73.6	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B	
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 Project Number: 2754

MW2-SS-30
K162707-06 (Soil)

Date Sampled
07/01/2016 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	07/01/2016	07/01/2016 15:19	EPA 8260B	



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MW2-SS-30

K162707-06 (Soil)

Date Sampled
07/01/2016 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	93.0 %	44.1-130	07/01/2016	07/01/2016 15:19	EPA 8260B
Surrogate: Toluene-d8	94.4 %	42-136	07/01/2016	07/01/2016 15:19	EPA 8260B
Surrogate: 4-Bromofluorobenzene	95.0 %	54.2-145	07/01/2016	07/01/2016 15:19	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	64.6	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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CH2M
 2020 SW 4th Avenue
 Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW2-SS-35
K162707-07 (Soil)

Date Sampled
07/01/2016 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	07/01/2016	07/01/2016 15:45	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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MW2-SS-35

K162707-07 (Soil)

Date Sampled
07/01/2016 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	96.1 %	44.1-130	07/01/2016	07/01/2016 15:45	EPA 8260B
Surrogate: Toluene-d8	97.7 %	42-136	07/01/2016	07/01/2016 15:45	EPA 8260B
Surrogate: 4-Bromofluorobenzene	99.3 %	54.2-145	07/01/2016	07/01/2016 15:45	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	64.4	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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 Project Number: 2754

MW2-SS-40
K162707-08 (Soil)

Date Sampled
07/01/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Methylene chloride	ND	0.099	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	07/01/2016	07/01/2016 16:11	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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MW2-SS-40
K162707-08 (Soil)

Date Sampled
 07/01/2016 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	96.5 %		44.1-130		07/01/2016	07/01/2016 16:11	EPA 8260B	
Surrogate: Toluene-d8	96.6 %		42-136		07/01/2016	07/01/2016 16:11	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.8 %		54.2-145		07/01/2016	07/01/2016 16:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	73.8	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B	
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 Project Number: 2754

MW2-SS-45
K162707-09 (Soil)

Date Sampled
07/01/2016 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	07/01/2016	07/01/2016 16:37	EPA 8260B	



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MW2-SS-45

K162707-09 (Soil)

Date Sampled
07/01/2016 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

<i>Surrogate: 1-Bromo-2-chloroethane</i>	94.3 %		44.1-130		07/01/2016	07/01/2016 16:37	EPA 8260B	
<i>Surrogate: Toluene-d8</i>	95.3 %		42-136		07/01/2016	07/01/2016 16:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>	102 %		54.2-145		07/01/2016	07/01/2016 16:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	69.1	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B	
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

MW2-SS-50
K162707-10 (Soil)

Date Sampled
07/01/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	07/01/2016	07/01/2016 17:03	EPA 8260B	



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MW2-SS-50

K162707-10 (Soil)

Date Sampled
07/01/2016 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	101 %	44.1-130	07/01/2016	07/01/2016 17:03	EPA 8260B
Surrogate: Toluene-d8	100 %	42-136	07/01/2016	07/01/2016 17:03	EPA 8260B
Surrogate: 4-Bromofluorobenzene	101 %	54.2-145	07/01/2016	07/01/2016 17:03	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	66.9	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW2-SS-55
K162707-11 (Soil)

Date Sampled
07/01/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	07/01/2016	07/01/2016 17:29	EPA 8260B	



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MW2-SS-55

K162707-11 (Soil)

Date Sampled
07/01/2016 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	98.1 %	44.1-130	07/01/2016	07/01/2016 17:29	EPA 8260B
Surrogate: Toluene-d8	99.2 %	42-136	07/01/2016	07/01/2016 17:29	EPA 8260B
Surrogate: 4-Bromofluorobenzene	102 %	54.2-145	07/01/2016	07/01/2016 17:29	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	76.6	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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 Project Number: 2754

MW2-SS-60
K162707-12 (Soil)

Date Sampled
 07/01/2016 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,1,2-Trichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,1-Dichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,1-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,2-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,2-Dichloroethane	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,3-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
1,4-Dichlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
2-Chlorotoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
4-Chlorotoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Carbon tetrachloride	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Chlorobenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Chloroform	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Chloromethane	ND	0.046	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Ethylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Isopropylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
m,p-Xylene	ND	0.046	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Methylene chloride	ND	0.092	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Naphthalene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
n-Butyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
n-Propyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
o-Xylene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
p-Isopropyltoluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
sec-Butyl Benzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Styrene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
tert-Butylbenzene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Tetrachloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Toluene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Trichloroethene	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Vinyl chloride	ND	0.023	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	
Xylenes, total	ND	0.069	mg/kg dry	1	07/01/2016	07/01/2016 17:54	EPA 8260B	



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MW2-SS-60
K162707-12 (Soil)

Date Sampled
07/01/2016 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	99.3 %		44.1-130		07/01/2016	07/01/2016 17:54	EPA 8260B	
Surrogate: Toluene-d8	101 %		42-136		07/01/2016	07/01/2016 17:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	99.2 %		54.2-145		07/01/2016	07/01/2016 17:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	73.0	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B	
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Project Number: 2754

MW2-SS-65
K162707-13 (Soil)

Date Sampled
07/01/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Chloromethane	ND	0.051	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
m,p-Xylene	ND	0.051	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	
Xylenes, total	ND	0.077	mg/kg dry	1	07/01/2016	07/01/2016 16:15	EPA 8260B	



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MW2-SS-65

K162707-13 (Soil)

Date Sampled
07/01/2016 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	90.7 %	44.1-130	07/01/2016	07/01/2016 16:15	EPA 8260B
Surrogate: Toluene-d8	94.4 %	42-136	07/01/2016	07/01/2016 16:15	EPA 8260B
Surrogate: 4-Bromofluorobenzene	94.2 %	54.2-145	07/01/2016	07/01/2016 16:15	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	70.5	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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MW2-SS-70
K162707-14 (Soil)

Date Sampled
07/01/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,1,2-Trichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,1-Dichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,1-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,2-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,2-Dichloroethane	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,3-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
1,4-Dichlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
2-Chlorotoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
4-Chlorotoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Carbon tetrachloride	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Chlorobenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Chloroform	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Chloromethane	ND	0.054	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Ethylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Isopropylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
m,p-Xylene	ND	0.054	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Methylene chloride	ND	0.11	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Naphthalene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
n-Butyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
n-Propyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
o-Xylene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
p-Isopropyltoluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
sec-Butyl Benzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Styrene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
tert-Butylbenzene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Tetrachloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Toluene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Trichloroethene	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Vinyl chloride	ND	0.027	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	
Xylenes, total	ND	0.081	mg/kg dry	1	07/01/2016	07/01/2016 16:40	EPA 8260B	



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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MW2-SS-70

K162707-14 (Soil)

Date Sampled
07/01/2016 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	93.2 %		44.1-130		07/01/2016	07/01/2016 16:40	EPA 8260B	
Surrogate: Toluene-d8	96.6 %		42-136		07/01/2016	07/01/2016 16:40	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.7 %		54.2-145		07/01/2016	07/01/2016 16:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	66.5	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B	
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 Project Number: 2754

MW2-SS-75
K162707-15 (Soil)

Date Sampled
07/01/2016 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,1,2-Trichloroethane	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,1-Dichloroethane	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,1-Dichloroethene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,2-Dichlorobenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,2-Dichloroethane	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,3-Dichlorobenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
1,4-Dichlorobenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
2-Chlorotoluene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
4-Chlorotoluene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Benzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Carbon tetrachloride	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Chlorobenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Chloroform	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Chloromethane	ND	0.059	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Ethylbenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Isopropylbenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
m,p-Xylene	ND	0.059	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Methylene chloride	ND	0.12	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Naphthalene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
n-Butyl Benzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
n-Propyl Benzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
o-Xylene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
p-Isopropyltoluene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
sec-Butyl Benzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Styrene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
tert-Butylbenzene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Tetrachloroethene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Toluene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Trichloroethene	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Vinyl chloride	ND	0.029	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	
Xylenes, total	ND	0.088	mg/kg dry	1	07/01/2016	07/01/2016 17:06	EPA 8260B	



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MW2-SS-75
K162707-15 (Soil)

Date Sampled
 07/01/2016 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	87.9 %	44.1-130	07/01/2016	07/01/2016 17:06	EPA 8260B
Surrogate: Toluene-d8	94.9 %	42-136	07/01/2016	07/01/2016 17:06	EPA 8260B
Surrogate: 4-Bromofluorobenzene	92.7 %	54.2-145	07/01/2016	07/01/2016 17:06	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	65.8	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

MW2-SS-80
K162707-16 (Soil)

Date Sampled
 07/01/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,1,2-Trichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,1-Dichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,1-Dichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,2-Dichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,2-Dichloroethane	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,3-Dichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
1,4-Dichlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
2-Chlorotoluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
4-Chlorotoluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Carbon tetrachloride	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Chlorobenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Chloroform	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Chloromethane	ND	0.049	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Ethylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Isopropylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
m,p-Xylene	ND	0.049	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Methylene chloride	ND	0.098	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Naphthalene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
n-Butyl Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
n-Propyl Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
o-Xylene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
p-Isopropyltoluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
sec-Butyl Benzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Styrene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
tert-Butylbenzene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Tetrachloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Toluene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Trichloroethene	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Vinyl chloride	ND	0.025	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	
Xylenes, total	ND	0.074	mg/kg dry	1	07/01/2016	07/01/2016 17:31	EPA 8260B	



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MW2-SS-80

K162707-16 (Soil)

Date Sampled
07/01/2016 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	92.9 %		44.1-130		07/01/2016	07/01/2016 17:31	EPA 8260B	
Surrogate: Toluene-d8	97.6 %		42-136		07/01/2016	07/01/2016 17:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene	95.2 %		54.2-145		07/01/2016	07/01/2016 17:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	84.6	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B	
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 Project Number: 2754

MW2-SS-85
K162707-17 (Soil)

Date Sampled
07/01/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,1,2-Trichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,1-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,1-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,2-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,2-Dichloroethane	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,3-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
1,4-Dichlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
2-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
4-Chlorotoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Carbon tetrachloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Chlorobenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Chloroform	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Chloromethane	ND	0.048	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Ethylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Isopropylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
m,p-Xylene	ND	0.048	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Methylene chloride	ND	0.097	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Naphthalene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
n-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
n-Propyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
o-Xylene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
p-Isopropyltoluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
sec-Butyl Benzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Styrene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
tert-Butylbenzene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Tetrachloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Toluene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Trichloroethene	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Vinyl chloride	ND	0.024	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	
Xylenes, total	ND	0.073	mg/kg dry	1	07/01/2016	07/01/2016 17:57	EPA 8260B	



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MW2-SS-85

K162707-17 (Soil)

Date Sampled
07/01/2016 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	94.4 %	44.1-130	07/01/2016	07/01/2016 17:57	EPA 8260B
Surrogate: Toluene-d8	97.4 %	42-136	07/01/2016	07/01/2016 17:57	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.3 %	54.2-145	07/01/2016	07/01/2016 17:57	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	91.8	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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Project: Grain Handling Facility at Freeman - Freeman, WA
 Project Number: 2754

SB-FD1-070116
K162707-18 (Soil)

Date Sampled
 07/01/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

1,1,1-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,1,2-Trichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,1-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,1-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,2,4-Trichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,2,4-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,2-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,2-Dichloroethane	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,3,5-Trimethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,3-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
1,4-Dichlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
2-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
4-Chlorotoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Carbon tetrachloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Chlorobenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Chloroform	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Chloromethane	ND	0.052	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	LC
cis-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Ethylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Isopropylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
m,p-Xylene	ND	0.052	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Methylene chloride	ND	0.10	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Naphthalene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
n-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
n-Propyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
o-Xylene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
p-Isopropyltoluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
sec-Butyl Benzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Styrene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
tert-Butylbenzene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Tetrachloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Toluene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Trichloroethene	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Vinyl chloride	ND	0.026	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	
Xylenes, total	ND	0.079	mg/kg dry	1	07/01/2016	07/01/2016 19:14	EPA 8260B	



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SB-FD1-070116

Date Sampled

K162707-18 (Soil)

07/01/2016 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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ECCS - Lab #11

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: K607001

Surrogate: 1-Bromo-2-chloroethane	90.2 %	44.1-130	07/01/2016	07/01/2016 19:14	EPA 8260B
Surrogate: Toluene-d8	97.0 %	42-136	07/01/2016	07/01/2016 19:14	EPA 8260B
Surrogate: 4-Bromofluorobenzene	96.4 %	54.2-145	07/01/2016	07/01/2016 19:14	EPA 8260B

Classical Chemistry Parameters

Preparation Batch: K607002

% Solids	70.2	0.00	% by Weight	1	07/01/2016	07/01/2016 21:02	SM 2540B
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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606002 - EPA 3550B

Blank (K606002-BLK1)

Prepared: 06/27/2016 Analyzed: 06/27/2016 13:26

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.506		mg/kg wet	0.5000		101	44.1-130			
Surrogate: Toluene-d8	0.503		mg/kg wet	0.5000		101	42-136			
Surrogate: 4-Bromofluorobenzene	0.514		mg/kg wet	0.5000		103	54.2-145			



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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606002 - EPA 3550B

LCS (K606002-BS1)

Prepared: 06/27/2016 Analyzed: 06/27/2016 17:46

1,1,1-Trichloroethane	0.477	0.025	mg/kg wet	0.5000		95.4	59.6-143			
1,1,2,2-Tetrachloroethane	0.536	0.025	mg/kg wet	0.5000		107	61.1-133			
1,1,2-Trichloroethane	0.567	0.025	mg/kg wet	0.5000		113	72.5-128			
1,1-Dichloroethane	0.506	0.025	mg/kg wet	0.5000		101	65-136			
1,1-Dichloroethene	0.552	0.025	mg/kg wet	0.5000		110	51.4-160			
1,2,3-Trichlorobenzene	0.566	0.025	mg/kg wet	0.5000		113	73.1-122			
1,2,4-Trichlorobenzene	0.551	0.025	mg/kg wet	0.5000		110	80.3-118			
1,2,4-Trimethylbenzene	0.563	0.025	mg/kg wet	0.5000		113	57.2-139			
1,2-Dichlorobenzene	0.526	0.025	mg/kg wet	0.5000		105	87.7-118			
1,2-Dichloroethane	0.481	0.025	mg/kg wet	0.5000		96.2	66.5-133			
1,3,5-Trimethylbenzene	0.496	0.025	mg/kg wet	0.5000		99.1	32-159			
1,3-Dichlorobenzene	0.496	0.025	mg/kg wet	0.5000		99.2	88.8-116			
1,4-Dichlorobenzene	0.518	0.025	mg/kg wet	0.5000		104	83.9-116			
2-Chlorotoluene	0.493	0.025	mg/kg wet	0.5000		98.6	87.3-130			
4-Chlorotoluene	0.508	0.025	mg/kg wet	0.5000		102	92.4-126			
Benzene	0.491	0.025	mg/kg wet	0.5000		98.2	67.1-128			
Carbon tetrachloride	0.469	0.025	mg/kg wet	0.5000		93.9	70.7-126			
Chlorobenzene	0.522	0.025	mg/kg wet	0.5000		104	83.1-114			
Chloroform	0.483	0.025	mg/kg wet	0.5000		96.6	73-127			
Chloromethane	0.782	0.050	mg/kg wet	0.5000		156	24.9-199			
cis-1,2-Dichloroethene	0.509	0.025	mg/kg wet	0.5000		102	67.7-129			
Ethylbenzene	0.521	0.025	mg/kg wet	0.5000		104	80.6-126			
Isopropylbenzene	0.530	0.025	mg/kg wet	0.5000		106	91.2-121			
m,p-Xylene	1.05	0.050	mg/kg wet	1.000		105	79-124			
Methylene chloride	0.494	0.10	mg/kg wet	0.5000		98.8	20-162			
Naphthalene	0.566	0.025	mg/kg wet	0.5000		113	64.2-125			
n-Butyl Benzene	0.483	0.025	mg/kg wet	0.5000		96.6	90.2-122			
n-Propyl Benzene	0.493	0.025	mg/kg wet	0.5000		98.6	84-139			
o-Xylene	0.531	0.025	mg/kg wet	0.5000		106	80.1-122			
p-Isopropyltoluene	0.494	0.025	mg/kg wet	0.5000		98.8	89-129			
sec-Butyl Benzene	0.496	0.025	mg/kg wet	0.5000		99.2	87.6-126			
Styrene	0.541	0.025	mg/kg wet	0.5000		108	82.8-116			
tert-Butylbenzene	0.503	0.025	mg/kg wet	0.5000		101	83.4-139			
Tetrachloroethene	0.452	0.025	mg/kg wet	0.5000		90.5	61.6-133			
Toluene	0.534	0.025	mg/kg wet	0.5000		107	65.2-134			
trans-1,2-Dichloroethene	0.505	0.025	mg/kg wet	0.5000		101	47.7-151			
Trichloroethene	0.492	0.025	mg/kg wet	0.5000		98.4	67.3-132			
Vinyl chloride	0.785	0.025	mg/kg wet	0.5000		157	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.555		mg/kg wet	0.5000		111	44.1-130			
Surrogate: Toluene-d8	0.526		mg/kg wet	0.5000		105	42-136			
Surrogate: 4-Bromofluorobenzene	0.553		mg/kg wet	0.5000		111	54.2-145			

Matrix Spike (K606002-MS1)

Source: K162702-07

Prepared: 06/27/2016 Analyzed: 06/28/2016 00:54

1,1,1-Trichloroethane	0.599	0.024	mg/kg dry	0.7077	ND	84.6	55.3-131			
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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606002 - EPA 3550B

Matrix Spike (K606002-MS1)	Source: K162702-07			Prepared: 06/27/2016 Analyzed: 06/28/2016 00:54						
1,1,2,2-Tetrachloroethane	0.729	0.024	mg/kg dry	0.7077	ND	103	29.5-139			
1,1,2-Trichloroethane	0.721	0.024	mg/kg dry	0.7077	ND	102	56.2-134			
1,1-Dichloroethane	0.683	0.024	mg/kg dry	0.7077	ND	96.5	53.1-134			
1,1-Dichloroethene	0.678	0.024	mg/kg dry	0.7077	ND	95.8	20.5-183			
1,2,3-Trichlorobenzene	0.779	0.024	mg/kg dry	0.7077	ND	110	52-117			
1,2,4-Trichlorobenzene	0.727	0.024	mg/kg dry	0.7077	ND	103	58.7-116			
1,2,4-Trimethylbenzene	0.758	0.024	mg/kg dry	0.7077	ND	107	66.1-129			
1,2-Dichlorobenzene	0.688	0.024	mg/kg dry	0.7077	ND	97.1	71.9-113			
1,2-Dichloroethane	0.617	0.024	mg/kg dry	0.7077	ND	87.1	56.5-128			
1,3,5-Trimethylbenzene	0.676	0.024	mg/kg dry	0.7077	ND	95.6	65.4-133			
1,3-Dichlorobenzene	0.647	0.024	mg/kg dry	0.7077	ND	91.4	62.7-125			
1,4-Dichlorobenzene	0.684	0.024	mg/kg dry	0.7077	ND	96.7	61.9-122			
2-Chlorotoluene	0.675	0.024	mg/kg dry	0.7077	ND	95.4	67.4-133			
4-Chlorotoluene	0.687	0.024	mg/kg dry	0.7077	ND	97.1	63.3-132			
Benzene	0.658	0.024	mg/kg dry	0.7077	ND	93.0	55.4-126			
Carbon tetrachloride	0.591	0.024	mg/kg dry	0.7077	ND	83.6	44.2-136			
Chlorobenzene	0.668	0.024	mg/kg dry	0.7077	ND	94.4	69.8-113			
Chloroform	0.636	0.024	mg/kg dry	0.7077	ND	89.9	60.6-127			
Chloromethane	1.01	0.048	mg/kg dry	0.7077	ND	142	13.4-199			
cis-1,2-Dichloroethene	0.700	0.024	mg/kg dry	0.7077	ND	98.9	27.4-176			
Ethylbenzene	0.716	0.024	mg/kg dry	0.7077	ND	101	71.8-116			
Isopropylbenzene	0.703	0.024	mg/kg dry	0.7077	ND	99.3	74.2-123			
m,p-Xylene	1.38	0.048	mg/kg dry	1.415	ND	97.2	71.1-111			
Methylene chloride	0.626	0.096	mg/kg dry	0.7077	ND	88.5	67.2-127			
Naphthalene	0.776	0.024	mg/kg dry	0.7077	ND	110	51.2-119			
n-Butyl Benzene	0.676	0.024	mg/kg dry	0.7077	ND	95.6	70.8-124			
n-Propyl Benzene	0.676	0.024	mg/kg dry	0.7077	ND	95.5	64.2-140			
o-Xylene	0.681	0.024	mg/kg dry	0.7077	ND	96.2	68.4-113			
p-Isopropyltoluene	0.653	0.024	mg/kg dry	0.7077	ND	92.3	69.8-128			
sec-Butyl Benzene	0.669	0.024	mg/kg dry	0.7077	ND	94.5	68.2-129			
Styrene	0.711	0.024	mg/kg dry	0.7077	ND	101	70.5-119			
tert-Butylbenzene	0.658	0.024	mg/kg dry	0.7077	ND	93.0	68.3-131			
Tetrachloroethene	0.604	0.024	mg/kg dry	0.7077	ND	85.4	35.4-165			
Toluene	0.667	0.024	mg/kg dry	0.7077	ND	94.3	59.9-117			
trans-1,2-Dichloroethene	0.656	0.024	mg/kg dry	0.7077	ND	92.7	34.4-160			
Trichloroethene	0.616	0.024	mg/kg dry	0.7077	ND	87.0	27.7-173			
Vinyl chloride	0.998	0.024	mg/kg dry	0.7077	ND	141	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.694		mg/kg dry	0.7077		98.1	44.1-130			
Surrogate: Toluene-d8	0.658		mg/kg dry	0.7077		93.0	42-136			
Surrogate: 4-Bromofluorobenzene	0.708		mg/kg dry	0.7077		100	54.2-145			

Matrix Spike Dup (K606002-MSD1)	Source: K162702-07			Prepared: 06/27/2016 Analyzed: 06/28/2016 01:19						
1,1,1-Trichloroethane	0.571	0.022	mg/kg dry	0.6562	ND	87.1	55.3-131	2.88	20	
1,1,2,2-Tetrachloroethane	0.646	0.022	mg/kg dry	0.6562	ND	98.4	29.5-139	4.53	20	



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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606002 - EPA 3550B

Matrix Spike Dup (K606002-MSD1)	Source: K162702-07			Prepared: 06/27/2016 Analyzed: 06/28/2016 01:19						
1,1,2-Trichloroethane	0.652	0.022	mg/kg dry	0.6562	ND	99.3	56.2-134	2.49	20	
1,1-Dichloroethane	0.780	0.022	mg/kg dry	0.6562	ND	119	53.1-134	20.8	20	X
1,1-Dichloroethene	0.730	0.022	mg/kg dry	0.6562	ND	111	20.5-183	14.8	20	
1,2,3-Trichlorobenzene	0.603	0.022	mg/kg dry	0.6562	ND	91.9	52-117	17.9	20	
1,2,4-Trichlorobenzene	0.624	0.022	mg/kg dry	0.6562	ND	95.1	58.7-116	7.75	20	
1,2,4-Trimethylbenzene	0.732	0.022	mg/kg dry	0.6562	ND	112	66.1-129	3.99	20	
1,2-Dichlorobenzene	0.639	0.022	mg/kg dry	0.6562	ND	97.4	71.9-113	0.214	20	
1,2-Dichloroethane	0.594	0.022	mg/kg dry	0.6562	ND	90.6	56.5-128	3.88	20	
1,3,5-Trimethylbenzene	0.669	0.022	mg/kg dry	0.6562	ND	102	65.4-133	6.47	20	
1,3-Dichlorobenzene	0.653	0.022	mg/kg dry	0.6562	ND	99.6	62.7-125	8.59	20	
1,4-Dichlorobenzene	0.630	0.022	mg/kg dry	0.6562	ND	96.0	61.9-122	0.677	20	
2-Chlorotoluene	0.655	0.022	mg/kg dry	0.6562	ND	99.7	67.4-133	4.44	20	
4-Chlorotoluene	0.663	0.022	mg/kg dry	0.6562	ND	101	63.3-132	3.98	20	
Benzene	0.611	0.022	mg/kg dry	0.6562	ND	93.1	55.4-126	0.0752	20	
Carbon tetrachloride	0.560	0.022	mg/kg dry	0.6562	ND	85.4	44.2-136	2.14	20	
Chlorobenzene	0.642	0.022	mg/kg dry	0.6562	ND	97.9	69.8-113	3.58	20	
Chloroform	0.610	0.022	mg/kg dry	0.6562	ND	92.9	60.6-127	3.28	20	
Chloromethane	1.02	0.044	mg/kg dry	0.6562	ND	155	13.4-199	8.51	20	
cis-1,2-Dichloroethene	0.651	0.022	mg/kg dry	0.6562	ND	99.2	27.4-176	0.281	20	
Ethylbenzene	0.663	0.022	mg/kg dry	0.6562	ND	101	71.8-116	0.192	20	
Isopropylbenzene	0.693	0.022	mg/kg dry	0.6562	ND	106	74.2-123	6.09	20	
m,p-Xylene	1.31	0.044	mg/kg dry	1.312	ND	100	71.1-111	2.94	20	
Methylene chloride	0.696	0.089	mg/kg dry	0.6562	ND	106	67.2-127	18.0	20	
Naphthalene	0.606	0.022	mg/kg dry	0.6562	ND	92.4	51.2-119	17.1	20	
n-Butyl Benzene	0.646	0.022	mg/kg dry	0.6562	ND	98.5	70.8-124	3.01	20	
n-Propyl Benzene	0.688	0.022	mg/kg dry	0.6562	ND	105	64.2-140	9.26	20	
o-Xylene	0.662	0.022	mg/kg dry	0.6562	ND	101	68.4-113	4.84	20	
p-Isopropyltoluene	0.652	0.022	mg/kg dry	0.6562	ND	99.4	69.8-128	7.44	20	
sec-Butyl Benzene	0.668	0.022	mg/kg dry	0.6562	ND	102	68.2-129	7.41	20	
Styrene	0.674	0.022	mg/kg dry	0.6562	ND	103	70.5-119	2.17	20	
tert-Butylbenzene	0.654	0.022	mg/kg dry	0.6562	ND	99.7	68.3-131	6.94	20	
Tetrachloroethene	0.505	0.022	mg/kg dry	0.6562	ND	77.0	35.4-165	10.4	20	
Toluene	0.649	0.022	mg/kg dry	0.6562	ND	98.9	59.9-117	4.78	20	
trans-1,2-Dichloroethene	0.728	0.022	mg/kg dry	0.6562	ND	111	34.4-160	18.0	20	
Trichloroethene	0.599	0.022	mg/kg dry	0.6562	ND	91.3	27.7-173	4.79	20	
Vinyl chloride	1.05	0.022	mg/kg dry	0.6562	ND	159	17.8-199	12.1	20	
Surrogate: 1-Bromo-2-chloroethane	0.648		mg/kg dry	0.6562		98.8	44.1-130			
Surrogate: Toluene-d8	0.655		mg/kg dry	0.6562		99.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.654		mg/kg dry	0.6562		99.6	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606004 - EPA 3550B

Blank (K606004-BLK1)

Prepared: 06/28/2016 Analyzed: 06/28/2016 19:19

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.503		mg/kg wet	0.5000		101	44.1-130			
Surrogate: Toluene-d8	0.511		mg/kg wet	0.5000		102	42-136			
Surrogate: 4-Bromofluorobenzene	0.492		mg/kg wet	0.5000		98.3	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606004 - EPA 3550B

LCS (K606004-BS1)

Prepared: 06/28/2016 Analyzed: 06/28/2016 18:54

1,1,1-Trichloroethane	0.482	0.025	mg/kg wet	0.5000		96.3	59.6-143			
1,1,2,2-Tetrachloroethane	0.497	0.025	mg/kg wet	0.5000		99.4	61.1-133			
1,1,2-Trichloroethane	0.551	0.025	mg/kg wet	0.5000		110	72.5-128			
1,1-Dichloroethane	0.497	0.025	mg/kg wet	0.5000		99.4	65-136			
1,1-Dichloroethene	0.586	0.025	mg/kg wet	0.5000		117	51.4-160			
1,2,3-Trichlorobenzene	0.500	0.025	mg/kg wet	0.5000		100	73.1-122			
1,2,4-Trichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	80.3-118			
1,2,4-Trimethylbenzene	0.577	0.025	mg/kg wet	0.5000		115	57.2-139			
1,2-Dichlorobenzene	0.483	0.025	mg/kg wet	0.5000		96.6	87.7-118			
1,2-Dichloroethane	0.463	0.025	mg/kg wet	0.5000		92.5	66.5-133			
1,3,5-Trimethylbenzene	0.516	0.025	mg/kg wet	0.5000		103	32-159			
1,3-Dichlorobenzene	0.479	0.025	mg/kg wet	0.5000		95.9	88.8-116			
1,4-Dichlorobenzene	0.499	0.025	mg/kg wet	0.5000		99.9	83.9-116			
2-Chlorotoluene	0.523	0.025	mg/kg wet	0.5000		105	87.3-130			
4-Chlorotoluene	0.520	0.025	mg/kg wet	0.5000		104	92.4-126			
Benzene	0.461	0.025	mg/kg wet	0.5000		92.3	67.1-128			
Carbon tetrachloride	0.453	0.025	mg/kg wet	0.5000		90.5	70.7-126			
Chlorobenzene	0.492	0.025	mg/kg wet	0.5000		98.4	83.1-114			
Chloroform	0.481	0.025	mg/kg wet	0.5000		96.2	73-127			
Chloromethane	0.873	0.050	mg/kg wet	0.5000		175	24.9-199			
cis-1,2-Dichloroethene	0.601	0.025	mg/kg wet	0.5000		120	67.7-129			
Ethylbenzene	0.511	0.025	mg/kg wet	0.5000		102	80.6-126			
Isopropylbenzene	0.540	0.025	mg/kg wet	0.5000		108	91.2-121			
m,p-Xylene	1.01	0.050	mg/kg wet	1.000		101	79-124			
Methylene chloride	0.486	0.10	mg/kg wet	0.5000		97.1	20-162			
Naphthalene	0.509	0.025	mg/kg wet	0.5000		102	64.2-125			
n-Butyl Benzene	0.506	0.025	mg/kg wet	0.5000		101	90.2-122			
n-Propyl Benzene	0.518	0.025	mg/kg wet	0.5000		104	84-139			
o-Xylene	0.512	0.025	mg/kg wet	0.5000		102	80.1-122			
p-Isopropyltoluene	0.512	0.025	mg/kg wet	0.5000		102	89-129			
sec-Butyl Benzene	0.523	0.025	mg/kg wet	0.5000		105	87.6-126			
Styrene	0.510	0.025	mg/kg wet	0.5000		102	82.8-116			
tert-Butylbenzene	0.552	0.025	mg/kg wet	0.5000		110	83.4-139			
Tetrachloroethene	0.411	0.025	mg/kg wet	0.5000		82.2	61.6-133			
Toluene	0.547	0.025	mg/kg wet	0.5000		109	65.2-134			
trans-1,2-Dichloroethene	0.504	0.025	mg/kg wet	0.5000		101	47.7-151			
Trichloroethene	0.493	0.025	mg/kg wet	0.5000		98.5	67.3-132			
Vinyl chloride	0.853	0.025	mg/kg wet	0.5000		171	25.9-199			

Surrogate: 1-Bromo-2-chloroethane	0.537		mg/kg wet	0.5000		107	44.1-130			
Surrogate: Toluene-d8	0.542		mg/kg wet	0.5000		108	42-136			
Surrogate: 4-Bromofluorobenzene	0.511		mg/kg wet	0.5000		102	54.2-145			

Matrix Spike (K606004-MS1)

Source: K162703-06

Prepared: 06/28/2016 Analyzed: 06/29/2016 04:56

1,1,1-Trichloroethane	0.481	0.023	mg/kg dry	0.5634	ND	85.3	55.3-131			
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606004 - EPA 3550B

Matrix Spike (K606004-MS1)	Source: K162703-06			Prepared: 06/28/2016 Analyzed: 06/29/2016 04:56						
1,1,2,2-Tetrachloroethane	0.514	0.023	mg/kg dry	0.5634	ND	91.3	29.5-139			
1,1,2-Trichloroethane	0.560	0.023	mg/kg dry	0.5634	ND	99.3	56.2-134			
1,1-Dichloroethane	0.526	0.023	mg/kg dry	0.5634	ND	93.3	53.1-134			
1,1-Dichloroethene	0.578	0.023	mg/kg dry	0.5634	ND	103	20.5-183			
1,2,3-Trichlorobenzene	0.557	0.023	mg/kg dry	0.5634	ND	98.8	52-117			
1,2,4-Trichlorobenzene	0.561	0.023	mg/kg dry	0.5634	ND	99.5	58.7-116			
1,2,4-Trimethylbenzene	0.594	0.023	mg/kg dry	0.5634	ND	105	66.1-129			
1,2-Dichlorobenzene	0.548	0.023	mg/kg dry	0.5634	ND	97.2	71.9-113			
1,2-Dichloroethane	0.500	0.023	mg/kg dry	0.5634	ND	88.8	56.5-128			
1,3,5-Trimethylbenzene	0.539	0.023	mg/kg dry	0.5634	ND	95.6	65.4-133			
1,3-Dichlorobenzene	0.514	0.023	mg/kg dry	0.5634	ND	91.3	62.7-125			
1,4-Dichlorobenzene	0.535	0.023	mg/kg dry	0.5634	ND	94.9	61.9-122			
2-Chlorotoluene	0.514	0.023	mg/kg dry	0.5634	ND	91.3	67.4-133			
4-Chlorotoluene	0.519	0.023	mg/kg dry	0.5634	ND	92.1	63.3-132			
Benzene	0.517	0.023	mg/kg dry	0.5634	ND	91.8	55.4-126			
Carbon tetrachloride	0.475	0.023	mg/kg dry	0.5634	ND	84.3	44.2-136			
Chlorobenzene	0.531	0.023	mg/kg dry	0.5634	ND	94.2	69.8-113			
Chloroform	0.507	0.023	mg/kg dry	0.5634	ND	89.9	60.6-127			
Chloromethane	0.829	0.046	mg/kg dry	0.5634	ND	147	13.4-199			
cis-1,2-Dichloroethene	0.629	0.023	mg/kg dry	0.5634	ND	112	27.4-176			
Ethylbenzene	0.543	0.023	mg/kg dry	0.5634	ND	96.4	71.8-116			
Isopropylbenzene	0.614	0.023	mg/kg dry	0.5634	ND	109	74.2-123			
m,p-Xylene	1.09	0.046	mg/kg dry	1.127	ND	96.9	71.1-111			
Methylene chloride	0.515	0.091	mg/kg dry	0.5634	ND	91.4	67.2-127			
Naphthalene	0.618	0.023	mg/kg dry	0.5634	ND	110	51.2-119			
n-Butyl Benzene	0.525	0.023	mg/kg dry	0.5634	ND	93.2	70.8-124			
n-Propyl Benzene	0.526	0.023	mg/kg dry	0.5634	ND	93.4	64.2-140			
o-Xylene	0.589	0.023	mg/kg dry	0.5634	ND	105	68.4-113			
p-Isopropyltoluene	0.541	0.023	mg/kg dry	0.5634	ND	95.9	69.8-128			
sec-Butyl Benzene	0.537	0.023	mg/kg dry	0.5634	ND	95.4	68.2-129			
Styrene	0.597	0.023	mg/kg dry	0.5634	ND	106	70.5-119			
tert-Butylbenzene	0.539	0.023	mg/kg dry	0.5634	ND	95.6	68.3-131			
Tetrachloroethene	0.476	0.023	mg/kg dry	0.5634	ND	84.5	35.4-165			
Toluene	0.540	0.023	mg/kg dry	0.5634	ND	95.8	59.9-117			
trans-1,2-Dichloroethene	0.544	0.023	mg/kg dry	0.5634	ND	96.6	34.4-160			
Trichloroethene	0.498	0.023	mg/kg dry	0.5634	ND	88.4	27.7-173			
Vinyl chloride	0.796	0.023	mg/kg dry	0.5634	ND	141	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.517</i>		<i>mg/kg dry</i>	<i>0.5634</i>		<i>91.7</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.561</i>		<i>mg/kg dry</i>	<i>0.5634</i>		<i>99.5</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.591</i>		<i>mg/kg dry</i>	<i>0.5634</i>		<i>105</i>	<i>54.2-145</i>			

Matrix Spike Dup (K606004-MSD1)	Source: K162703-06			Prepared: 06/28/2016 Analyzed: 06/29/2016 05:21						
1,1,1-Trichloroethane	0.495	0.023	mg/kg dry	0.5578	ND	88.6	55.3-131	3.82	20	
1,1,2,2-Tetrachloroethane	0.544	0.023	mg/kg dry	0.5578	ND	97.4	29.5-139	6.52	20	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606004 - EPA 3550B

Matrix Spike Dup (K606004-MSD1)

Source: K162703-06

Prepared: 06/28/2016 Analyzed: 06/29/2016 05:21

1,1,2-Trichloroethane	0.559	0.023	mg/kg dry	0.5578	ND	100	56.2-134	0.884	20	
1,1-Dichloroethane	0.538	0.023	mg/kg dry	0.5578	ND	96.4	53.1-134	3.26	20	
1,1-Dichloroethene	0.599	0.023	mg/kg dry	0.5578	ND	107	20.5-183	4.59	20	
1,2,3-Trichlorobenzene	0.561	0.023	mg/kg dry	0.5578	ND	101	52-117	1.74	20	
1,2,4-Trichlorobenzene	0.560	0.023	mg/kg dry	0.5578	ND	100	58.7-116	0.793	20	
1,2,4-Trimethylbenzene	0.620	0.023	mg/kg dry	0.5578	ND	111	66.1-129	5.21	20	
1,2-Dichlorobenzene	0.566	0.023	mg/kg dry	0.5578	ND	102	71.9-113	4.39	20	
1,2-Dichloroethane	0.522	0.023	mg/kg dry	0.5578	ND	93.5	56.5-128	5.18	20	
1,3,5-Trimethylbenzene	0.541	0.023	mg/kg dry	0.5578	ND	96.9	65.4-133	1.32	20	
1,3-Dichlorobenzene	0.521	0.023	mg/kg dry	0.5578	ND	93.5	62.7-125	2.37	20	
1,4-Dichlorobenzene	0.543	0.023	mg/kg dry	0.5578	ND	97.3	61.9-122	2.54	20	
2-Chlorotoluene	0.521	0.023	mg/kg dry	0.5578	ND	93.3	67.4-133	2.21	20	
4-Chlorotoluene	0.546	0.023	mg/kg dry	0.5578	ND	97.9	63.3-132	6.18	20	
Benzene	0.530	0.023	mg/kg dry	0.5578	ND	95.1	55.4-126	3.52	20	
Carbon tetrachloride	0.481	0.023	mg/kg dry	0.5578	ND	86.2	44.2-136	2.28	20	
Chlorobenzene	0.540	0.023	mg/kg dry	0.5578	ND	96.8	69.8-113	2.77	20	
Chloroform	0.530	0.023	mg/kg dry	0.5578	ND	95.0	60.6-127	5.48	20	
Chloromethane	0.841	0.045	mg/kg dry	0.5578	ND	151	13.4-199	2.46	20	
cis-1,2-Dichloroethene	0.650	0.023	mg/kg dry	0.5578	ND	116	27.4-176	4.16	20	
Ethylbenzene	0.566	0.023	mg/kg dry	0.5578	ND	101	71.8-116	5.07	20	
Isopropylbenzene	0.578	0.023	mg/kg dry	0.5578	ND	104	74.2-123	4.99	20	
m,p-Xylene	1.11	0.045	mg/kg dry	1.116	ND	99.7	71.1-111	2.81	20	
Methylene chloride	0.530	0.090	mg/kg dry	0.5578	ND	94.9	67.2-127	3.81	20	
Naphthalene	0.586	0.023	mg/kg dry	0.5578	ND	105	51.2-119	4.23	20	
n-Butyl Benzene	0.536	0.023	mg/kg dry	0.5578	ND	96.0	70.8-124	2.98	20	
n-Propyl Benzene	0.574	0.023	mg/kg dry	0.5578	ND	103	64.2-140	9.71	20	
o-Xylene	0.567	0.023	mg/kg dry	0.5578	ND	102	68.4-113	2.88	20	
p-Isopropyltoluene	0.583	0.023	mg/kg dry	0.5578	ND	105	69.8-128	8.59	20	
sec-Butyl Benzene	0.562	0.023	mg/kg dry	0.5578	ND	101	68.2-129	5.44	20	
Styrene	0.597	0.023	mg/kg dry	0.5578	ND	107	70.5-119	1.06	20	
tert-Butylbenzene	0.597	0.023	mg/kg dry	0.5578	ND	107	68.3-131	11.3	20	
Tetrachloroethene	0.423	0.023	mg/kg dry	0.5578	ND	75.9	35.4-165	10.8	20	
Toluene	0.568	0.023	mg/kg dry	0.5578	ND	102	59.9-117	6.08	20	
trans-1,2-Dichloroethene	0.549	0.023	mg/kg dry	0.5578	ND	98.4	34.4-160	1.86	20	
Trichloroethene	0.504	0.023	mg/kg dry	0.5578	ND	90.3	27.7-173	2.04	20	
Vinyl chloride	0.838	0.023	mg/kg dry	0.5578	ND	150	17.8-199	6.07	20	
Surrogate: 1-Bromo-2-chloroethane	0.541		mg/kg dry	0.5578		97.1	44.1-130			
Surrogate: Toluene-d8	0.563		mg/kg dry	0.5578		101	42-136			
Surrogate: 4-Bromofluorobenzene	0.562		mg/kg dry	0.5578		101	54.2-145			



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 Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

Blank (K606006-BLK1)

Prepared: 06/30/2016 Analyzed: 06/30/2016 13:51

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.515		mg/kg wet	0.5000		103	44.1-130			
Surrogate: Toluene-d8	0.497		mg/kg wet	0.5000		99.3	42-136			
Surrogate: 4-Bromofluorobenzene	0.550		mg/kg wet	0.5000		110	54.2-145			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

Blank (K606006-BLK2)

Prepared: 06/30/2016 Analyzed: 07/01/2016 03:24

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.471		mg/kg wet	0.5000		94.2	44.1-130			
Surrogate: Toluene-d8	0.491		mg/kg wet	0.5000		98.3	42-136			
Surrogate: 4-Bromofluorobenzene	0.494		mg/kg wet	0.5000		98.8	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

LCS (K606006-BS1)

Prepared: 06/30/2016 Analyzed: 06/30/2016 13:24

1,1,1-Trichloroethane	0.465	0.025	mg/kg wet	0.5000		93.1	59.6-143			
1,1,2,2-Tetrachloroethane	0.489	0.025	mg/kg wet	0.5000		97.8	61.1-133			
1,1,2-Trichloroethane	0.490	0.025	mg/kg wet	0.5000		97.9	72.5-128			
1,1-Dichloroethane	0.480	0.025	mg/kg wet	0.5000		96.0	65-136			
1,1-Dichloroethene	0.480	0.025	mg/kg wet	0.5000		95.9	51.4-160			
1,2,3-Trichlorobenzene	0.413	0.025	mg/kg wet	0.5000		82.6	73.1-122			
1,2,4-Trichlorobenzene	0.440	0.025	mg/kg wet	0.5000		88.0	80.3-118			
1,2,4-Trimethylbenzene	0.511	0.025	mg/kg wet	0.5000		102	57.2-139			
1,2-Dichlorobenzene	0.467	0.025	mg/kg wet	0.5000		93.5	87.7-118			
1,2-Dichloroethane	0.467	0.025	mg/kg wet	0.5000		93.5	66.5-133			
1,3,5-Trimethylbenzene	0.516	0.025	mg/kg wet	0.5000		103	32-159			
1,3-Dichlorobenzene	0.530	0.025	mg/kg wet	0.5000		106	88.8-116			
1,4-Dichlorobenzene	0.495	0.025	mg/kg wet	0.5000		99.0	83.9-116			
2-Chlorotoluene	0.553	0.025	mg/kg wet	0.5000		111	87.3-130			
4-Chlorotoluene	0.500	0.025	mg/kg wet	0.5000		99.9	92.4-126			
Benzene	0.507	0.025	mg/kg wet	0.5000		101	67.1-128			
Carbon tetrachloride	0.479	0.025	mg/kg wet	0.5000		95.7	70.7-126			
Chlorobenzene	0.500	0.025	mg/kg wet	0.5000		100	83.1-114			
Chloroform	0.473	0.025	mg/kg wet	0.5000		94.6	73-127			
Chloromethane	0.584	0.050	mg/kg wet	0.5000		117	24.9-199			
cis-1,2-Dichloroethene	0.501	0.025	mg/kg wet	0.5000		100	67.7-129			
Ethylbenzene	0.510	0.025	mg/kg wet	0.5000		102	80.6-126			
Isopropylbenzene	0.529	0.025	mg/kg wet	0.5000		106	91.2-121			
m,p-Xylene	0.994	0.050	mg/kg wet	1.000		99.4	79-124			
Methylene chloride	0.498	0.10	mg/kg wet	0.5000		99.5	20-162			
Naphthalene	0.400	0.025	mg/kg wet	0.5000		80.1	64.2-125			
n-Butyl Benzene	0.519	0.025	mg/kg wet	0.5000		104	90.2-122			
n-Propyl Benzene	0.545	0.025	mg/kg wet	0.5000		109	84-139			
o-Xylene	0.503	0.025	mg/kg wet	0.5000		101	80.1-122			
p-Isopropyltoluene	0.534	0.025	mg/kg wet	0.5000		107	89-129			
sec-Butyl Benzene	0.525	0.025	mg/kg wet	0.5000		105	87.6-126			
Styrene	0.488	0.025	mg/kg wet	0.5000		97.5	82.8-116			
tert-Butylbenzene	0.520	0.025	mg/kg wet	0.5000		104	83.4-139			
Tetrachloroethene	0.453	0.025	mg/kg wet	0.5000		90.6	61.6-133			
Toluene	0.467	0.025	mg/kg wet	0.5000		93.3	65.2-134			
trans-1,2-Dichloroethene	0.484	0.025	mg/kg wet	0.5000		96.9	47.7-151			
Trichloroethene	0.487	0.025	mg/kg wet	0.5000		97.4	67.3-132			
Vinyl chloride	0.652	0.025	mg/kg wet	0.5000		130	25.9-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.492</i>		<i>mg/kg wet</i>	<i>0.5000</i>		<i>98.5</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.460</i>		<i>mg/kg wet</i>	<i>0.5000</i>		<i>92.0</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.515</i>		<i>mg/kg wet</i>	<i>0.5000</i>		<i>103</i>	<i>54.2-145</i>			

LCS (K606006-BS2)

Prepared: 06/30/2016 Analyzed: 07/01/2016 08:32

1,1,1-Trichloroethane	0.482	0.025	mg/kg wet	0.5000		96.4	59.6-143			
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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

LCS (K606006-BS2)

Prepared: 06/30/2016 Analyzed: 07/01/2016 08:32

1,1,2,2-Tetrachloroethane	0.527	0.025	mg/kg wet	0.5000		105	61.1-133			
1,1,2-Trichloroethane	0.438	0.025	mg/kg wet	0.5000		87.6	72.5-128			
1,1-Dichloroethane	0.506	0.025	mg/kg wet	0.5000		101	65-136			
1,1-Dichloroethene	0.526	0.025	mg/kg wet	0.5000		105	51.4-160			
1,2,3-Trichlorobenzene	0.502	0.025	mg/kg wet	0.5000		100	73.1-122			
1,2,4-Trichlorobenzene	0.486	0.025	mg/kg wet	0.5000		97.2	80.3-118			
1,2,4-Trimethylbenzene	0.515	0.025	mg/kg wet	0.5000		103	57.2-139			
1,2-Dichlorobenzene	0.482	0.025	mg/kg wet	0.5000		96.5	87.7-118			
1,2-Dichloroethane	0.451	0.025	mg/kg wet	0.5000		90.3	66.5-133			
1,3,5-Trimethylbenzene	0.527	0.025	mg/kg wet	0.5000		105	32-159			
1,3-Dichlorobenzene	0.501	0.025	mg/kg wet	0.5000		100	88.8-116			
1,4-Dichlorobenzene	0.471	0.025	mg/kg wet	0.5000		94.3	83.9-116			
2-Chlorotoluene	0.512	0.025	mg/kg wet	0.5000		102	87.3-130			
4-Chlorotoluene	0.507	0.025	mg/kg wet	0.5000		101	92.4-126			
Benzene	0.511	0.025	mg/kg wet	0.5000		102	67.1-128			
Carbon tetrachloride	0.488	0.025	mg/kg wet	0.5000		97.7	70.7-126			
Chlorobenzene	0.506	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.472	0.025	mg/kg wet	0.5000		94.5	73-127			
Chloromethane	0.614	0.050	mg/kg wet	0.5000		123	24.9-199			
cis-1,2-Dichloroethene	0.485	0.025	mg/kg wet	0.5000		96.9	67.7-129			
Ethylbenzene	0.532	0.025	mg/kg wet	0.5000		106	80.6-126			
Isopropylbenzene	0.496	0.025	mg/kg wet	0.5000		99.2	91.2-121			
m,p-Xylene	1.01	0.050	mg/kg wet	1.000		101	79-124			
Methylene chloride	0.516	0.10	mg/kg wet	0.5000		103	20-162			
Naphthalene	0.511	0.025	mg/kg wet	0.5000		102	64.2-125			
n-Butyl Benzene	0.551	0.025	mg/kg wet	0.5000		110	90.2-122			
n-Propyl Benzene	0.539	0.025	mg/kg wet	0.5000		108	84-139			
o-Xylene	0.511	0.025	mg/kg wet	0.5000		102	80.1-122			
p-Isopropyltoluene	0.508	0.025	mg/kg wet	0.5000		102	89-129			
sec-Butyl Benzene	0.516	0.025	mg/kg wet	0.5000		103	87.6-126			
Styrene	0.487	0.025	mg/kg wet	0.5000		97.4	82.8-116			
tert-Butylbenzene	0.523	0.025	mg/kg wet	0.5000		105	83.4-139			
Tetrachloroethene	0.507	0.025	mg/kg wet	0.5000		101	61.6-133			
Toluene	0.490	0.025	mg/kg wet	0.5000		97.9	65.2-134			
trans-1,2-Dichloroethene	0.527	0.025	mg/kg wet	0.5000		105	47.7-151			
Trichloroethene	0.495	0.025	mg/kg wet	0.5000		99.0	67.3-132			
Vinyl chloride	0.663	0.025	mg/kg wet	0.5000		133	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.507		mg/kg wet	0.5000		101	44.1-130			
Surrogate: Toluene-d8	0.499		mg/kg wet	0.5000		99.9	42-136			
Surrogate: 4-Bromofluorobenzene	0.488		mg/kg wet	0.5000		97.6	54.2-145			

Matrix Spike (K606006-MS1)

Source: K162704-02

Prepared: 06/30/2016 Analyzed: 07/01/2016 01:14

1,1,1-Trichloroethane	0.568	0.023	mg/kg dry	0.5784	ND	98.2	55.3-131			
1,1,2,2-Tetrachloroethane	0.613	0.023	mg/kg dry	0.5784	ND	106	29.5-139			



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

Matrix Spike (K606006-MS1)	Source: K162704-02			Prepared: 06/30/2016 Analyzed: 07/01/2016 01:14						
1,1,2-Trichloroethane	0.598	0.023	mg/kg dry	0.5784	ND	103	56.2-134			
1,1-Dichloroethane	0.588	0.023	mg/kg dry	0.5784	ND	102	53.1-134			
1,1-Dichloroethene	0.625	0.023	mg/kg dry	0.5784	ND	108	20.5-183			
1,2,3-Trichlorobenzene	0.589	0.023	mg/kg dry	0.5784	ND	102	52-117			
1,2,4-Trichlorobenzene	0.575	0.023	mg/kg dry	0.5784	ND	99.3	58.7-116			
1,2,4-Trimethylbenzene	0.559	0.023	mg/kg dry	0.5784	ND	96.7	66.1-129			
1,2-Dichlorobenzene	0.555	0.023	mg/kg dry	0.5784	ND	96.0	71.9-113			
1,2-Dichloroethane	0.525	0.023	mg/kg dry	0.5784	ND	90.8	56.5-128			
1,3,5-Trimethylbenzene	0.566	0.023	mg/kg dry	0.5784	ND	97.9	65.4-133			
1,3-Dichlorobenzene	0.559	0.023	mg/kg dry	0.5784	ND	96.7	62.7-125			
1,4-Dichlorobenzene	0.554	0.023	mg/kg dry	0.5784	ND	95.9	61.9-122			
2-Chlorotoluene	0.559	0.023	mg/kg dry	0.5784	ND	96.6	67.4-133			
4-Chlorotoluene	0.549	0.023	mg/kg dry	0.5784	ND	94.8	63.3-132			
Benzene	0.567	0.023	mg/kg dry	0.5784	ND	98.0	55.4-126			
Carbon tetrachloride	0.563	0.023	mg/kg dry	0.5784	ND	97.3	44.2-136			
Chlorobenzene	0.575	0.023	mg/kg dry	0.5784	ND	99.5	69.8-113			
Chloroform	0.547	0.023	mg/kg dry	0.5784	ND	94.6	60.6-127			
Chloromethane	0.763	0.047	mg/kg dry	0.5784	ND	132	13.4-199			
cis-1,2-Dichloroethene	0.567	0.023	mg/kg dry	0.5784	ND	98.0	27.4-176			
Ethylbenzene	0.578	0.023	mg/kg dry	0.5784	ND	99.9	71.8-116			
Isopropylbenzene	0.568	0.023	mg/kg dry	0.5784	ND	98.2	74.2-123			
m,p-Xylene	1.12	0.047	mg/kg dry	1.157	ND	96.8	71.1-111			
Methylene chloride	0.584	0.094	mg/kg dry	0.5784	ND	101	67.2-127			
Naphthalene	0.615	0.023	mg/kg dry	0.5784	ND	106	51.2-119			
n-Butyl Benzene	0.599	0.023	mg/kg dry	0.5784	ND	104	70.8-124			
n-Propyl Benzene	0.550	0.023	mg/kg dry	0.5784	ND	95.1	64.2-140			
o-Xylene	0.570	0.023	mg/kg dry	0.5784	ND	98.5	68.4-113			
p-Isopropyltoluene	0.553	0.023	mg/kg dry	0.5784	ND	95.5	69.8-128			
sec-Butyl Benzene	0.549	0.023	mg/kg dry	0.5784	ND	95.0	68.2-129			
Styrene	0.563	0.023	mg/kg dry	0.5784	ND	97.3	70.5-119			
tert-Butylbenzene	0.560	0.023	mg/kg dry	0.5784	ND	96.8	68.3-131			
Tetrachloroethene	0.563	0.023	mg/kg dry	0.5784	ND	97.3	35.4-165			
Toluene	0.564	0.023	mg/kg dry	0.5784	ND	97.6	59.9-117			
trans-1,2-Dichloroethene	0.598	0.023	mg/kg dry	0.5784	ND	103	34.4-160			
Trichloroethene	0.536	0.023	mg/kg dry	0.5784	ND	92.6	27.7-173			
Vinyl chloride	0.745	0.023	mg/kg dry	0.5784	ND	129	17.8-199			
<i>Surrogate: 1-Bromo-2-chloroethane</i>	<i>0.550</i>		<i>mg/kg dry</i>	<i>0.5784</i>		<i>95.0</i>	<i>44.1-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.559</i>		<i>mg/kg dry</i>	<i>0.5784</i>		<i>96.6</i>	<i>42-136</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.573</i>		<i>mg/kg dry</i>	<i>0.5784</i>		<i>99.0</i>	<i>54.2-145</i>			

Matrix Spike (K606006-MS2)	Source: K162705-03			Prepared: 06/30/2016 Analyzed: 07/01/2016 09:50						
1,1,1-Trichloroethane	0.764	0.026	mg/kg dry	0.7665	ND	99.6	55.3-131			
1,1,2,2-Tetrachloroethane	0.755	0.026	mg/kg dry	0.7665	ND	98.5	29.5-139			
1,1,2-Trichloroethane	0.729	0.026	mg/kg dry	0.7665	ND	95.1	56.2-134			



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

Matrix Spike (K606006-MS2)	Source: K162705-03			Prepared: 06/30/2016 Analyzed: 07/01/2016 09:50						
1,1-Dichloroethane	0.836	0.026	mg/kg dry	0.7665	ND	109	53.1-134			
1,1-Dichloroethene	0.766	0.026	mg/kg dry	0.7665	ND	100	20.5-183			
1,2,3-Trichlorobenzene	0.557	0.026	mg/kg dry	0.7665	ND	72.7	52-117			
1,2,4-Trichlorobenzene	0.606	0.026	mg/kg dry	0.7665	ND	79.0	58.7-116			
1,2,4-Trimethylbenzene	0.780	0.026	mg/kg dry	0.7665	ND	102	66.1-129			
1,2-Dichlorobenzene	0.680	0.026	mg/kg dry	0.7665	ND	88.8	71.9-113			
1,2-Dichloroethane	0.763	0.026	mg/kg dry	0.7665	ND	99.5	56.5-128			
1,3,5-Trimethylbenzene	0.834	0.026	mg/kg dry	0.7665	ND	109	65.4-133			
1,3-Dichlorobenzene	0.776	0.026	mg/kg dry	0.7665	ND	101	62.7-125			
1,4-Dichlorobenzene	0.693	0.026	mg/kg dry	0.7665	ND	90.4	61.9-122			
2-Chlorotoluene	0.816	0.026	mg/kg dry	0.7665	ND	107	67.4-133			
4-Chlorotoluene	0.879	0.026	mg/kg dry	0.7665	ND	115	63.3-132			
Benzene	0.814	0.026	mg/kg dry	0.7665	ND	106	55.4-126			
Carbon tetrachloride	0.761	0.026	mg/kg dry	0.7665	ND	99.3	44.2-136			
Chlorobenzene	0.754	0.026	mg/kg dry	0.7665	ND	98.4	69.8-113			
Chloroform	0.776	0.026	mg/kg dry	0.7665	ND	101	60.6-127			
Chloromethane	0.917	0.051	mg/kg dry	0.7665	ND	120	13.4-199			
cis-1,2-Dichloroethene	0.829	0.026	mg/kg dry	0.7665	ND	108	27.4-176			
Ethylbenzene	0.770	0.026	mg/kg dry	0.7665	ND	100	71.8-116			
Isopropylbenzene	0.770	0.026	mg/kg dry	0.7665	ND	100	74.2-123			
m,p-Xylene	1.51	0.051	mg/kg dry	1.533	ND	98.6	71.1-111			
Methylene chloride	0.802	0.10	mg/kg dry	0.7665	ND	105	67.2-127			
Naphthalene	0.520	0.026	mg/kg dry	0.7665	ND	67.9	51.2-119			
n-Butyl Benzene	0.837	0.026	mg/kg dry	0.7665	ND	109	70.8-124			
n-Propyl Benzene	0.840	0.026	mg/kg dry	0.7665	ND	110	64.2-140			
o-Xylene	0.741	0.026	mg/kg dry	0.7665	ND	96.7	68.4-113			
p-Isopropyltoluene	0.812	0.026	mg/kg dry	0.7665	ND	106	69.8-128			
sec-Butyl Benzene	0.820	0.026	mg/kg dry	0.7665	ND	107	68.2-129			
Styrene	0.753	0.026	mg/kg dry	0.7665	ND	98.3	70.5-119			
tert-Butylbenzene	0.847	0.026	mg/kg dry	0.7665	ND	110	68.3-131			
Tetrachloroethene	0.730	0.026	mg/kg dry	0.7665	ND	95.2	35.4-165			
Toluene	0.765	0.026	mg/kg dry	0.7665	ND	99.7	59.9-117			
trans-1,2-Dichloroethene	0.828	0.026	mg/kg dry	0.7665	ND	108	34.4-160			
Trichloroethene	0.708	0.026	mg/kg dry	0.7665	ND	92.4	27.7-173			
Vinyl chloride	0.933	0.026	mg/kg dry	0.7665	ND	122	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.760		mg/kg dry	0.7665		99.2	44.1-130			
Surrogate: Toluene-d8	0.748		mg/kg dry	0.7665		97.5	42-136			
Surrogate: 4-Bromofluorobenzene	0.723		mg/kg dry	0.7665		94.4	54.2-145			

Matrix Spike Dup (K606006-MSD1)	Source: K162704-02			Prepared: 06/30/2016 Analyzed: 07/01/2016 01:40						
1,1,1-Trichloroethane	0.559	0.023	mg/kg dry	0.5779	ND	96.7	55.3-131	1.50	20	
1,1,2,2-Tetrachloroethane	0.577	0.023	mg/kg dry	0.5779	ND	99.9	29.5-139	5.97	20	
1,1,2-Trichloroethane	0.528	0.023	mg/kg dry	0.5779	ND	91.5	56.2-134	12.2	20	
1,1-Dichloroethane	0.586	0.023	mg/kg dry	0.5779	ND	101	53.1-134	0.100	20	



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

Matrix Spike Dup (K606006-MSD1)

Source: K162704-02

Prepared: 06/30/2016 Analyzed: 07/01/2016 01:40

1,1-Dichloroethene	0.593	0.023	mg/kg dry	0.5779	ND	103	20.5-183	5.11	20	
1,2,3-Trichlorobenzene	0.528	0.023	mg/kg dry	0.5779	ND	91.3	52-117	10.9	20	
1,2,4-Trichlorobenzene	0.546	0.023	mg/kg dry	0.5779	ND	94.5	58.7-116	4.99	20	
1,2,4-Trimethylbenzene	0.582	0.023	mg/kg dry	0.5779	ND	101	66.1-129	4.14	20	
1,2-Dichlorobenzene	0.551	0.023	mg/kg dry	0.5779	ND	95.4	71.9-113	0.650	20	
1,2-Dichloroethane	0.521	0.023	mg/kg dry	0.5779	ND	90.1	56.5-128	0.683	20	
1,3,5-Trimethylbenzene	0.574	0.023	mg/kg dry	0.5779	ND	99.3	65.4-133	1.36	20	
1,3-Dichlorobenzene	0.558	0.023	mg/kg dry	0.5779	ND	96.6	62.7-125	0.0972	20	
1,4-Dichlorobenzene	0.567	0.023	mg/kg dry	0.5779	ND	98.1	61.9-122	2.33	20	
2-Chlorotoluene	0.576	0.023	mg/kg dry	0.5779	ND	99.6	67.4-133	3.08	20	
4-Chlorotoluene	0.592	0.023	mg/kg dry	0.5779	ND	103	63.3-132	7.78	20	
Benzene	0.557	0.023	mg/kg dry	0.5779	ND	96.4	55.4-126	1.59	20	
Carbon tetrachloride	0.564	0.023	mg/kg dry	0.5779	ND	97.7	44.2-136	0.425	20	
Chlorobenzene	0.559	0.023	mg/kg dry	0.5779	ND	96.7	69.8-113	2.87	20	
Chloroform	0.543	0.023	mg/kg dry	0.5779	ND	94.0	60.6-127	0.636	20	
Chloromethane	0.757	0.047	mg/kg dry	0.5779	ND	131	13.4-199	0.808	20	
cis-1,2-Dichloroethene	0.565	0.023	mg/kg dry	0.5779	ND	97.7	27.4-176	0.260	20	
Ethylbenzene	0.568	0.023	mg/kg dry	0.5779	ND	98.4	71.8-116	1.58	20	
Isopropylbenzene	0.560	0.023	mg/kg dry	0.5779	ND	96.9	74.2-123	1.37	20	
m,p-Xylene	1.11	0.047	mg/kg dry	1.156	ND	96.2	71.1-111	0.604	20	
Methylene chloride	0.604	0.093	mg/kg dry	0.5779	ND	104	67.2-127	3.35	20	
Naphthalene	0.566	0.023	mg/kg dry	0.5779	ND	98.0	51.2-119	8.11	20	
n-Butyl Benzene	0.576	0.023	mg/kg dry	0.5779	ND	99.6	70.8-124	3.88	20	
n-Propyl Benzene	0.583	0.023	mg/kg dry	0.5779	ND	101	64.2-140	5.98	20	
o-Xylene	0.563	0.023	mg/kg dry	0.5779	ND	97.5	68.4-113	1.03	20	
p-Isopropyltoluene	0.562	0.023	mg/kg dry	0.5779	ND	97.3	69.8-128	1.82	20	
sec-Butyl Benzene	0.569	0.023	mg/kg dry	0.5779	ND	98.4	68.2-129	3.53	20	
Styrene	0.554	0.023	mg/kg dry	0.5779	ND	95.9	70.5-119	1.42	20	
tert-Butylbenzene	0.623	0.023	mg/kg dry	0.5779	ND	108	68.3-131	10.8	20	
Tetrachloroethene	0.571	0.023	mg/kg dry	0.5779	ND	98.8	35.4-165	1.47	20	
Toluene	0.548	0.023	mg/kg dry	0.5779	ND	94.9	59.9-117	2.81	20	
trans-1,2-Dichloroethene	0.618	0.023	mg/kg dry	0.5779	ND	107	34.4-160	3.36	20	
Trichloroethene	0.543	0.023	mg/kg dry	0.5779	ND	93.9	27.7-173	1.42	20	
Vinyl chloride	0.757	0.023	mg/kg dry	0.5779	ND	131	17.8-199	1.72	20	
Surrogate: 1-Bromo-2-chloroethane	0.519		mg/kg dry	0.5779		89.7	44.1-130			
Surrogate: Toluene-d8	0.561		mg/kg dry	0.5779		97.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.556		mg/kg dry	0.5779		96.2	54.2-145			

Matrix Spike Dup (K606006-MSD2)

Source: K162705-03

Prepared: 06/30/2016 Analyzed: 07/01/2016 10:17

1,1,1-Trichloroethane	0.783	0.026	mg/kg dry	0.7641	ND	102	55.3-131	2.80	20	
1,1,2,2-Tetrachloroethane	0.728	0.026	mg/kg dry	0.7641	ND	95.2	29.5-139	3.35	20	
1,1,2-Trichloroethane	0.740	0.026	mg/kg dry	0.7641	ND	96.8	56.2-134	1.72	20	
1,1-Dichloroethane	0.841	0.026	mg/kg dry	0.7641	ND	110	53.1-134	0.931	20	
1,1-Dichloroethene	0.762	0.026	mg/kg dry	0.7641	ND	99.7	20.5-183	0.246	20	



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ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606006 - EPA 3550B

Matrix Spike Dup (K606006-MSD2)

Source: K162705-03

Prepared: 06/30/2016 Analyzed: 07/01/2016 10:17

1,2,3-Trichlorobenzene	0.521	0.026	mg/kg dry	0.7641	ND	68.2	52-117	6.33	20	
1,2,4-Trichlorobenzene	0.625	0.026	mg/kg dry	0.7641	ND	81.8	58.7-116	3.49	20	
1,2,4-Trimethylbenzene	0.845	0.026	mg/kg dry	0.7641	ND	111	66.1-129	8.35	20	
1,2-Dichlorobenzene	0.694	0.026	mg/kg dry	0.7641	ND	90.9	71.9-113	2.34	20	
1,2-Dichloroethane	0.783	0.026	mg/kg dry	0.7641	ND	102	56.5-128	2.90	20	
1,3,5-Trimethylbenzene	0.869	0.026	mg/kg dry	0.7641	ND	114	65.4-133	4.38	20	
1,3-Dichlorobenzene	0.770	0.026	mg/kg dry	0.7641	ND	101	62.7-125	0.392	20	
1,4-Dichlorobenzene	0.729	0.026	mg/kg dry	0.7641	ND	95.4	61.9-122	5.35	20	
2-Chlorotoluene	0.799	0.026	mg/kg dry	0.7641	ND	104	67.4-133	1.91	20	
4-Chlorotoluene	0.823	0.026	mg/kg dry	0.7641	ND	108	63.3-132	6.23	20	
Benzene	0.798	0.026	mg/kg dry	0.7641	ND	104	55.4-126	1.59	20	
Carbon tetrachloride	0.772	0.026	mg/kg dry	0.7641	ND	101	44.2-136	1.69	20	
Chlorobenzene	0.738	0.026	mg/kg dry	0.7641	ND	96.6	69.8-113	1.89	20	
Chloroform	0.778	0.026	mg/kg dry	0.7641	ND	102	60.6-127	0.563	20	
Chloromethane	0.984	0.051	mg/kg dry	0.7641	ND	129	13.4-199	7.38	20	
cis-1,2-Dichloroethene	0.776	0.026	mg/kg dry	0.7641	ND	102	27.4-176	6.26	20	
Ethylbenzene	0.780	0.026	mg/kg dry	0.7641	ND	102	71.8-116	1.61	20	
Isopropylbenzene	0.757	0.026	mg/kg dry	0.7641	ND	99.1	74.2-123	1.36	20	
m,p-Xylene	1.49	0.051	mg/kg dry	1.528	ND	97.2	71.1-111	1.36	20	
Methylene chloride	0.848	0.10	mg/kg dry	0.7641	ND	111	67.2-127	5.94	20	
Naphthalene	0.472	0.026	mg/kg dry	0.7641	ND	61.7	51.2-119	9.44	20	
n-Butyl Benzene	0.825	0.026	mg/kg dry	0.7641	ND	108	70.8-124	1.14	20	
n-Propyl Benzene	0.859	0.026	mg/kg dry	0.7641	ND	112	64.2-140	2.61	20	
o-Xylene	0.759	0.026	mg/kg dry	0.7641	ND	99.3	68.4-113	2.69	20	
p-Isopropyltoluene	0.825	0.026	mg/kg dry	0.7641	ND	108	69.8-128	1.94	20	
sec-Butyl Benzene	0.849	0.026	mg/kg dry	0.7641	ND	111	68.2-129	3.77	20	
Styrene	0.717	0.026	mg/kg dry	0.7641	ND	93.8	70.5-119	4.66	20	
tert-Butylbenzene	0.865	0.026	mg/kg dry	0.7641	ND	113	68.3-131	2.46	20	
Tetrachloroethene	0.712	0.026	mg/kg dry	0.7641	ND	93.2	35.4-165	2.17	20	
Toluene	0.772	0.026	mg/kg dry	0.7641	ND	101	59.9-117	1.25	20	
trans-1,2-Dichloroethene	0.807	0.026	mg/kg dry	0.7641	ND	106	34.4-160	2.20	20	
Trichloroethene	0.718	0.026	mg/kg dry	0.7641	ND	94.0	27.7-173	1.75	20	
Vinyl chloride	0.979	0.026	mg/kg dry	0.7641	ND	128	17.8-199	5.07	20	
Surrogate: 1-Bromo-2-chloroethane	0.756		mg/kg dry	0.7641		98.9	44.1-130			
Surrogate: Toluene-d8	0.768		mg/kg dry	0.7641		101	42-136			
Surrogate: 4-Bromofluorobenzene	0.707		mg/kg dry	0.7641		92.6	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606008 - EPA 3550B

Blank (K606008-BLK1)

Prepared: 06/30/2016 Analyzed: 06/30/2016 19:33

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.493		mg/kg wet	0.5000		98.7	44.1-130			
Surrogate: Toluene-d8	0.496		mg/kg wet	0.5000		99.3	42-136			
Surrogate: 4-Bromofluorobenzene	0.509		mg/kg wet	0.5000		102	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606008 - EPA 3550B

LCS (K606008-BS1)

Prepared: 06/30/2016 Analyzed: 06/30/2016 19:06

1,1,1-Trichloroethane	0.526	0.025	mg/kg wet	0.5000		105	59.6-143			
1,1,2,2-Tetrachloroethane	0.512	0.025	mg/kg wet	0.5000		102	61.1-133			
1,1,2-Trichloroethane	0.491	0.025	mg/kg wet	0.5000		98.2	72.5-128			
1,1-Dichloroethane	0.536	0.025	mg/kg wet	0.5000		107	65-136			
1,1-Dichloroethene	0.593	0.025	mg/kg wet	0.5000		119	51.4-160			
1,2,3-Trichlorobenzene	0.494	0.025	mg/kg wet	0.5000		98.8	73.1-122			
1,2,4-Trichlorobenzene	0.493	0.025	mg/kg wet	0.5000		98.6	80.3-118			
1,2,4-Trimethylbenzene	0.529	0.025	mg/kg wet	0.5000		106	57.2-139			
1,2-Dichlorobenzene	0.508	0.025	mg/kg wet	0.5000		102	87.7-118			
1,2-Dichloroethane	0.496	0.025	mg/kg wet	0.5000		99.1	66.5-133			
1,3,5-Trimethylbenzene	0.527	0.025	mg/kg wet	0.5000		105	32-159			
1,3-Dichlorobenzene	0.525	0.025	mg/kg wet	0.5000		105	88.8-116			
1,4-Dichlorobenzene	0.504	0.025	mg/kg wet	0.5000		101	83.9-116			
2-Chlorotoluene	0.541	0.025	mg/kg wet	0.5000		108	87.3-130			
4-Chlorotoluene	0.531	0.025	mg/kg wet	0.5000		106	92.4-126			
Benzene	0.508	0.025	mg/kg wet	0.5000		102	67.1-128			
Carbon tetrachloride	0.528	0.025	mg/kg wet	0.5000		106	70.7-126			
Chlorobenzene	0.507	0.025	mg/kg wet	0.5000		101	83.1-114			
Chloroform	0.503	0.025	mg/kg wet	0.5000		101	73-127			
Chloromethane	0.672	0.050	mg/kg wet	0.5000		134	24.9-199			
cis-1,2-Dichloroethene	0.527	0.025	mg/kg wet	0.5000		105	67.7-129			
Ethylbenzene	0.508	0.025	mg/kg wet	0.5000		102	80.6-126			
Isopropylbenzene	0.492	0.025	mg/kg wet	0.5000		98.4	91.2-121			
m,p-Xylene	1.01	0.050	mg/kg wet	1.000		101	79-124			
Methylene chloride	0.520	0.10	mg/kg wet	0.5000		104	20-162			
Naphthalene	0.487	0.025	mg/kg wet	0.5000		97.3	64.2-125			
n-Butyl Benzene	0.502	0.025	mg/kg wet	0.5000		100	90.2-122			
n-Propyl Benzene	0.530	0.025	mg/kg wet	0.5000		106	84-139			
o-Xylene	0.497	0.025	mg/kg wet	0.5000		99.3	80.1-122			
p-Isopropyltoluene	0.526	0.025	mg/kg wet	0.5000		105	89-129			
sec-Butyl Benzene	0.515	0.025	mg/kg wet	0.5000		103	87.6-126			
Styrene	0.495	0.025	mg/kg wet	0.5000		99.1	82.8-116			
tert-Butylbenzene	0.545	0.025	mg/kg wet	0.5000		109	83.4-139			
Tetrachloroethene	0.524	0.025	mg/kg wet	0.5000		105	61.6-133			
Toluene	0.495	0.025	mg/kg wet	0.5000		99.0	65.2-134			
trans-1,2-Dichloroethene	0.544	0.025	mg/kg wet	0.5000		109	47.7-151			
Trichloroethene	0.512	0.025	mg/kg wet	0.5000		102	67.3-132			
Vinyl chloride	0.648	0.025	mg/kg wet	0.5000		130	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.485		mg/kg wet	0.5000		97.1	44.1-130			
Surrogate: Toluene-d8	0.500		mg/kg wet	0.5000		100	42-136			
Surrogate: 4-Bromofluorobenzene	0.493		mg/kg wet	0.5000		98.6	54.2-145			

Matrix Spike (K606008-MS1)

Source: K162706-03

Prepared: 06/30/2016 Analyzed: 07/01/2016 01:13

1,1,1-Trichloroethane	0.534	0.023	mg/kg dry	0.5452	ND	97.9	55.3-131			
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Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606008 - EPA 3550B

Matrix Spike (K606008-MS1)	Source: K162706-03			Prepared: 06/30/2016 Analyzed: 07/01/2016 01:13						
1,1,2,2-Tetrachloroethane	0.569	0.023	mg/kg dry	0.5452	ND	104	29.5-139			
1,1,2-Trichloroethane	0.530	0.023	mg/kg dry	0.5452	ND	97.3	56.2-134			
1,1-Dichloroethane	0.549	0.023	mg/kg dry	0.5452	ND	101	53.1-134			
1,1-Dichloroethene	0.558	0.023	mg/kg dry	0.5452	ND	102	20.5-183			
1,2,3-Trichlorobenzene	0.517	0.023	mg/kg dry	0.5452	ND	94.9	52-117			
1,2,4-Trichlorobenzene	0.517	0.023	mg/kg dry	0.5452	ND	94.8	58.7-116			
1,2,4-Trimethylbenzene	0.528	0.023	mg/kg dry	0.5452	ND	96.8	66.1-129			
1,2-Dichlorobenzene	0.518	0.023	mg/kg dry	0.5452	ND	95.0	71.9-113			
1,2-Dichloroethane	0.522	0.023	mg/kg dry	0.5452	ND	95.8	56.5-128			
1,3,5-Trimethylbenzene	0.536	0.023	mg/kg dry	0.5452	ND	98.2	65.4-133			
1,3-Dichlorobenzene	0.520	0.023	mg/kg dry	0.5452	ND	95.3	62.7-125			
1,4-Dichlorobenzene	0.515	0.023	mg/kg dry	0.5452	ND	94.5	61.9-122			
2-Chlorotoluene	0.541	0.023	mg/kg dry	0.5452	ND	99.3	67.4-133			
4-Chlorotoluene	0.521	0.023	mg/kg dry	0.5452	ND	95.5	63.3-132			
Benzene	0.540	0.023	mg/kg dry	0.5452	ND	99.0	55.4-126			
Carbon tetrachloride	0.536	0.023	mg/kg dry	0.5452	ND	98.4	44.2-136			
Chlorobenzene	0.512	0.023	mg/kg dry	0.5452	ND	93.8	69.8-113			
Chloroform	0.529	0.023	mg/kg dry	0.5452	ND	97.0	60.6-127			
Chloromethane	0.587	0.047	mg/kg dry	0.5452	ND	108	13.4-199			
cis-1,2-Dichloroethene	0.501	0.023	mg/kg dry	0.5452	ND	91.8	27.4-176			
Ethylbenzene	0.530	0.023	mg/kg dry	0.5452	ND	97.2	71.8-116			
Isopropylbenzene	0.504	0.023	mg/kg dry	0.5452	ND	92.5	74.2-123			
m,p-Xylene	1.04	0.047	mg/kg dry	1.090	ND	95.0	71.1-111			
Methylene chloride	0.528	0.093	mg/kg dry	0.5452	ND	96.9	67.2-127			
Naphthalene	0.505	0.023	mg/kg dry	0.5452	ND	92.7	51.2-119			
n-Butyl Benzene	0.532	0.023	mg/kg dry	0.5452	ND	97.6	70.8-124			
n-Propyl Benzene	0.576	0.023	mg/kg dry	0.5452	ND	106	64.2-140			
o-Xylene	0.514	0.023	mg/kg dry	0.5452	ND	94.4	68.4-113			
p-Isopropyltoluene	0.501	0.023	mg/kg dry	0.5452	ND	91.9	69.8-128			
sec-Butyl Benzene	0.528	0.023	mg/kg dry	0.5452	ND	96.9	68.2-129			
Styrene	0.508	0.023	mg/kg dry	0.5452	ND	93.1	70.5-119			
tert-Butylbenzene	0.519	0.023	mg/kg dry	0.5452	ND	95.2	68.3-131			
Tetrachloroethene	0.485	0.023	mg/kg dry	0.5452	ND	88.9	35.4-165			
Toluene	0.531	0.023	mg/kg dry	0.5452	ND	97.5	59.9-117			
trans-1,2-Dichloroethene	0.562	0.023	mg/kg dry	0.5452	ND	103	34.4-160			
Trichloroethene	0.516	0.023	mg/kg dry	0.5452	ND	94.6	27.7-173			
Vinyl chloride	0.585	0.023	mg/kg dry	0.5452	ND	107	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.540		mg/kg dry	0.5452		99.1	44.1-130			
Surrogate: Toluene-d8	0.518		mg/kg dry	0.5452		94.9	42-136			
Surrogate: 4-Bromofluorobenzene	0.508		mg/kg dry	0.5452		93.2	54.2-145			

Matrix Spike Dup (K606008-MSD1)	Source: K162706-03			Prepared: 06/30/2016 Analyzed: 07/01/2016 01:39						
1,1,1-Trichloroethane	0.615	0.025	mg/kg dry	0.5752	ND	107	55.3-131	8.75	20	
1,1,2,2-Tetrachloroethane	0.640	0.025	mg/kg dry	0.5752	ND	111	29.5-139	6.28	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606008 - EPA 3550B

Matrix Spike Dup (K606008-MSD1)	Source: K162706-03			Prepared: 06/30/2016 Analyzed: 07/01/2016 01:39						
1,1,2-Trichloroethane	0.582	0.025	mg/kg dry	0.5752	ND	101	56.2-134	3.94	20	
1,1-Dichloroethane	0.628	0.025	mg/kg dry	0.5752	ND	109	53.1-134	7.99	20	
1,1-Dichloroethene	0.689	0.025	mg/kg dry	0.5752	ND	120	20.5-183	15.7	20	
1,2,3-Trichlorobenzene	0.629	0.025	mg/kg dry	0.5752	ND	109	52-117	14.2	20	
1,2,4-Trichlorobenzene	0.626	0.025	mg/kg dry	0.5752	ND	109	58.7-116	13.7	20	
1,2,4-Trimethylbenzene	0.665	0.025	mg/kg dry	0.5752	ND	116	66.1-129	17.7	20	
1,2-Dichlorobenzene	0.660	0.025	mg/kg dry	0.5752	ND	115	71.9-113	18.8	20	M
1,2-Dichloroethane	0.595	0.025	mg/kg dry	0.5752	ND	103	56.5-128	7.65	20	
1,3,5-Trimethylbenzene	0.639	0.025	mg/kg dry	0.5752	ND	111	65.4-133	12.3	20	
1,3-Dichlorobenzene	0.599	0.025	mg/kg dry	0.5752	ND	104	62.7-125	8.87	20	
1,4-Dichlorobenzene	0.601	0.025	mg/kg dry	0.5752	ND	104	61.9-122	9.96	20	
2-Chlorotoluene	0.633	0.025	mg/kg dry	0.5752	ND	110	67.4-133	10.4	20	
4-Chlorotoluene	0.636	0.025	mg/kg dry	0.5752	ND	110	63.3-132	14.6	20	
Benzene	0.616	0.025	mg/kg dry	0.5752	ND	107	55.4-126	7.88	20	
Carbon tetrachloride	0.614	0.025	mg/kg dry	0.5752	ND	107	44.2-136	8.21	20	
Chlorobenzene	0.583	0.025	mg/kg dry	0.5752	ND	101	69.8-113	7.64	20	
Chloroform	0.611	0.025	mg/kg dry	0.5752	ND	106	60.6-127	9.19	20	
Chloromethane	0.724	0.049	mg/kg dry	0.5752	ND	126	13.4-199	15.6	20	
cis-1,2-Dichloroethene	0.591	0.025	mg/kg dry	0.5752	ND	103	27.4-176	11.3	20	
Ethylbenzene	0.594	0.025	mg/kg dry	0.5752	ND	103	71.8-116	6.06	20	
Isopropylbenzene	0.621	0.025	mg/kg dry	0.5752	ND	108	74.2-123	15.3	20	
m,p-Xylene	1.21	0.049	mg/kg dry	1.150	ND	105	71.1-111	9.86	20	
Methylene chloride	0.608	0.099	mg/kg dry	0.5752	ND	106	67.2-127	8.67	20	
Naphthalene	0.645	0.025	mg/kg dry	0.5752	ND	112	51.2-119	19.0	20	
n-Butyl Benzene	0.587	0.025	mg/kg dry	0.5752	ND	102	70.8-124	4.43	20	
n-Propyl Benzene	0.672	0.025	mg/kg dry	0.5752	ND	117	64.2-140	10.2	20	
o-Xylene	0.589	0.025	mg/kg dry	0.5752	ND	102	68.4-113	8.10	20	
p-Isopropyltoluene	0.665	0.025	mg/kg dry	0.5752	ND	116	69.8-128	22.9	20	X
sec-Butyl Benzene	0.613	0.025	mg/kg dry	0.5752	ND	107	68.2-129	9.49	20	
Styrene	0.584	0.025	mg/kg dry	0.5752	ND	102	70.5-119	8.72	20	
tert-Butylbenzene	0.752	0.025	mg/kg dry	0.5752	ND	131	68.3-131	31.5	20	X
Tetrachloroethene	0.580	0.025	mg/kg dry	0.5752	ND	101	35.4-165	12.7	20	
Toluene	0.593	0.025	mg/kg dry	0.5752	ND	103	59.9-117	5.55	20	
trans-1,2-Dichloroethene	0.649	0.025	mg/kg dry	0.5752	ND	113	34.4-160	9.12	20	
Trichloroethene	0.590	0.025	mg/kg dry	0.5752	ND	103	27.7-173	8.08	20	
Vinyl chloride	0.690	0.025	mg/kg dry	0.5752	ND	120	17.8-199	11.2	20	
Surrogate: 1-Bromo-2-chloroethane	0.590		mg/kg dry	0.5752		103	44.1-130			
Surrogate: Toluene-d8	0.596		mg/kg dry	0.5752		104	42-136			
Surrogate: 4-Bromofluorobenzene	0.598		mg/kg dry	0.5752		104	54.2-145			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K607001 - EPA 3550B

Blank (K607001-BLK1)

Prepared: 07/01/2016 Analyzed: 07/01/2016 13:59

1,1,1-Trichloroethane	ND	0.025	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.025	mg/kg wet							
1,1,2-Trichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethane	ND	0.025	mg/kg wet							
1,1-Dichloroethene	ND	0.025	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.025	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.025	mg/kg wet							
1,2-Dichlorobenzene	ND	0.025	mg/kg wet							
1,2-Dichloroethane	ND	0.025	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.025	mg/kg wet							
1,3-Dichlorobenzene	ND	0.025	mg/kg wet							
1,4-Dichlorobenzene	ND	0.025	mg/kg wet							
2-Chlorotoluene	ND	0.025	mg/kg wet							
4-Chlorotoluene	ND	0.025	mg/kg wet							
Benzene	ND	0.025	mg/kg wet							
Carbon tetrachloride	ND	0.025	mg/kg wet							
Chlorobenzene	ND	0.025	mg/kg wet							
Chloroform	ND	0.025	mg/kg wet							
Chloromethane	ND	0.050	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Ethylbenzene	ND	0.025	mg/kg wet							
Isopropylbenzene	ND	0.025	mg/kg wet							
m,p-Xylene	ND	0.050	mg/kg wet							
Methylene chloride	ND	0.10	mg/kg wet							
Naphthalene	ND	0.025	mg/kg wet							
n-Butyl Benzene	ND	0.025	mg/kg wet							
n-Propyl Benzene	ND	0.025	mg/kg wet							
o-Xylene	ND	0.025	mg/kg wet							
p-Isopropyltoluene	ND	0.025	mg/kg wet							
sec-Butyl Benzene	ND	0.025	mg/kg wet							
Styrene	ND	0.025	mg/kg wet							
tert-Butylbenzene	ND	0.025	mg/kg wet							
Tetrachloroethene	ND	0.025	mg/kg wet							
Toluene	ND	0.025	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.025	mg/kg wet							
Trichloroethene	ND	0.025	mg/kg wet							
Vinyl chloride	ND	0.025	mg/kg wet							
Xylenes, total	ND	0.075	mg/kg wet							
Surrogate: 1-Bromo-2-chloroethane	0.447		mg/kg wet	0.5000		89.4	44.1-130			
Surrogate: Toluene-d8	0.449		mg/kg wet	0.5000		89.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.539		mg/kg wet	0.5000		108	54.2-145			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K607001 - EPA 3550B

LCS (K607001-BS1)

Prepared: 07/01/2016 Analyzed: 07/01/2016 14:01

1,1,1-Trichloroethane	0.526	0.025	mg/kg wet	0.5000		105	59.6-143			
1,1,2,2-Tetrachloroethane	0.557	0.025	mg/kg wet	0.5000		111	61.1-133			
1,1,2-Trichloroethane	0.497	0.025	mg/kg wet	0.5000		99.3	72.5-128			
1,1-Dichloroethane	0.540	0.025	mg/kg wet	0.5000		108	65-136			
1,1-Dichloroethene	0.574	0.025	mg/kg wet	0.5000		115	51.4-160			
1,2,3-Trichlorobenzene	0.518	0.025	mg/kg wet	0.5000		104	73.1-122			
1,2,4-Trichlorobenzene	0.514	0.025	mg/kg wet	0.5000		103	80.3-118			
1,2,4-Trimethylbenzene	0.513	0.025	mg/kg wet	0.5000		103	57.2-139			
1,2-Dichlorobenzene	0.492	0.025	mg/kg wet	0.5000		98.4	87.7-118			
1,2-Dichloroethane	0.513	0.025	mg/kg wet	0.5000		103	66.5-133			
1,3,5-Trimethylbenzene	0.518	0.025	mg/kg wet	0.5000		104	32-159			
1,3-Dichlorobenzene	0.515	0.025	mg/kg wet	0.5000		103	88.8-116			
1,4-Dichlorobenzene	0.465	0.025	mg/kg wet	0.5000		93.0	83.9-116			
2-Chlorotoluene	0.534	0.025	mg/kg wet	0.5000		107	87.3-130			
4-Chlorotoluene	0.514	0.025	mg/kg wet	0.5000		103	92.4-126			
Benzene	0.518	0.025	mg/kg wet	0.5000		104	67.1-128			
Carbon tetrachloride	0.530	0.025	mg/kg wet	0.5000		106	70.7-126			
Chlorobenzene	0.490	0.025	mg/kg wet	0.5000		98.0	83.1-114			
Chloroform	0.515	0.025	mg/kg wet	0.5000		103	73-127			
Chloromethane	0.663	0.050	mg/kg wet	0.5000		133	24.9-199			
cis-1,2-Dichloroethene	0.560	0.025	mg/kg wet	0.5000		112	67.7-129			
Ethylbenzene	0.497	0.025	mg/kg wet	0.5000		99.4	80.6-126			
Isopropylbenzene	0.489	0.025	mg/kg wet	0.5000		97.8	91.2-121			
m,p-Xylene	1.01	0.050	mg/kg wet	1.000		101	79-124			
Methylene chloride	0.534	0.10	mg/kg wet	0.5000		107	20-162			
Naphthalene	0.497	0.025	mg/kg wet	0.5000		99.5	64.2-125			
n-Butyl Benzene	0.487	0.025	mg/kg wet	0.5000		97.3	90.2-122			
n-Propyl Benzene	0.536	0.025	mg/kg wet	0.5000		107	84-139			
o-Xylene	0.489	0.025	mg/kg wet	0.5000		97.9	80.1-122			
p-Isopropyltoluene	0.469	0.025	mg/kg wet	0.5000		93.9	89-129			
sec-Butyl Benzene	0.495	0.025	mg/kg wet	0.5000		99.1	87.6-126			
Styrene	0.484	0.025	mg/kg wet	0.5000		96.7	82.8-116			
tert-Butylbenzene	0.503	0.025	mg/kg wet	0.5000		101	83.4-139			
Tetrachloroethene	0.494	0.025	mg/kg wet	0.5000		98.7	61.6-133			
Toluene	0.505	0.025	mg/kg wet	0.5000		101	65.2-134			
trans-1,2-Dichloroethene	0.560	0.025	mg/kg wet	0.5000		112	47.7-151			
Trichloroethene	0.498	0.025	mg/kg wet	0.5000		99.7	67.3-132			
Vinyl chloride	0.648	0.025	mg/kg wet	0.5000		130	25.9-199			
Surrogate: 1-Bromo-2-chloroethane	0.520		mg/kg wet	0.5000		104	44.1-130			
Surrogate: Toluene-d8	0.499		mg/kg wet	0.5000		99.8	42-136			
Surrogate: 4-Bromofluorobenzene	0.500		mg/kg wet	0.5000		99.9	54.2-145			

Matrix Spike (K607001-MS1)

Source: K162707-05

Prepared: 07/01/2016 Analyzed: 07/01/2016 19:41

1,1,1-Trichloroethane	0.566	0.024	mg/kg dry	0.6441	ND	87.8	55.3-131			
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2020 SW 4th Avenue
Portland OR, 97201

Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K607001 - EPA 3550B

Matrix Spike (K607001-MS1)	Source: K162707-05			Prepared: 07/01/2016 Analyzed: 07/01/2016 19:41						
1,1,2,2-Tetrachloroethane	0.553	0.024	mg/kg dry	0.6441	ND	85.9	29.5-139			
1,1,2-Trichloroethane	0.527	0.024	mg/kg dry	0.6441	ND	81.9	56.2-134			
1,1-Dichloroethane	0.619	0.024	mg/kg dry	0.6441	ND	96.1	53.1-134			
1,1-Dichloroethene	0.588	0.024	mg/kg dry	0.6441	ND	91.3	20.5-183			
1,2,3-Trichlorobenzene	0.444	0.024	mg/kg dry	0.6441	ND	68.9	52-117			
1,2,4-Trichlorobenzene	0.502	0.024	mg/kg dry	0.6441	ND	78.0	58.7-116			
1,2,4-Trimethylbenzene	0.647	0.024	mg/kg dry	0.6441	ND	100	66.1-129			
1,2-Dichlorobenzene	0.548	0.024	mg/kg dry	0.6441	ND	85.0	71.9-113			
1,2-Dichloroethane	0.558	0.024	mg/kg dry	0.6441	ND	86.7	56.5-128			
1,3,5-Trimethylbenzene	0.669	0.024	mg/kg dry	0.6441	ND	104	65.4-133			
1,3-Dichlorobenzene	0.613	0.024	mg/kg dry	0.6441	ND	95.1	62.7-125			
1,4-Dichlorobenzene	0.568	0.024	mg/kg dry	0.6441	ND	88.2	61.9-122			
2-Chlorotoluene	0.651	0.024	mg/kg dry	0.6441	ND	101	67.4-133			
4-Chlorotoluene	0.619	0.024	mg/kg dry	0.6441	ND	96.2	63.3-132			
Benzene	0.595	0.024	mg/kg dry	0.6441	ND	92.3	55.4-126			
Carbon tetrachloride	0.555	0.024	mg/kg dry	0.6441	ND	86.2	44.2-136			
Chlorobenzene	0.567	0.024	mg/kg dry	0.6441	ND	88.1	69.8-113			
Chloroform	0.570	0.024	mg/kg dry	0.6441	ND	88.5	60.6-127			
Chloromethane	0.679	0.047	mg/kg dry	0.6441	ND	105	13.4-199			
cis-1,2-Dichloroethene	0.625	0.024	mg/kg dry	0.6441	ND	97.0	27.4-176			
Ethylbenzene	0.584	0.024	mg/kg dry	0.6441	ND	90.6	71.8-116			
Isopropylbenzene	0.590	0.024	mg/kg dry	0.6441	ND	91.5	74.2-123			
m,p-Xylene	1.18	0.047	mg/kg dry	1.288	ND	91.3	71.1-111			
Methylene chloride	0.614	0.095	mg/kg dry	0.6441	ND	95.4	67.2-127			
Naphthalene	0.433	0.024	mg/kg dry	0.6441	ND	67.3	51.2-119			
n-Butyl Benzene	0.633	0.024	mg/kg dry	0.6441	ND	98.2	70.8-124			
n-Propyl Benzene	0.663	0.024	mg/kg dry	0.6441	ND	103	64.2-140			
o-Xylene	0.579	0.024	mg/kg dry	0.6441	ND	89.9	68.4-113			
p-Isopropyltoluene	0.612	0.024	mg/kg dry	0.6441	ND	95.0	69.8-128			
sec-Butyl Benzene	0.649	0.024	mg/kg dry	0.6441	ND	101	68.2-129			
Styrene	0.552	0.024	mg/kg dry	0.6441	ND	85.8	70.5-119			
tert-Butylbenzene	0.651	0.024	mg/kg dry	0.6441	ND	101	68.3-131			
Tetrachloroethene	0.595	0.024	mg/kg dry	0.6441	ND	92.4	35.4-165			
Toluene	0.566	0.024	mg/kg dry	0.6441	ND	87.9	59.9-117			
trans-1,2-Dichloroethene	0.615	0.024	mg/kg dry	0.6441	ND	95.5	34.4-160			
Trichloroethene	0.561	0.024	mg/kg dry	0.6441	ND	87.1	27.7-173			
Vinyl chloride	0.704	0.024	mg/kg dry	0.6441	ND	109	17.8-199			
Surrogate: 1-Bromo-2-chloroethane	0.555		mg/kg dry	0.6441		86.2	44.1-130			
Surrogate: Toluene-d8	0.571		mg/kg dry	0.6441		88.7	42-136			
Surrogate: 4-Bromofluorobenzene	0.542		mg/kg dry	0.6441		84.1	54.2-145			

Matrix Spike Dup (K607001-MSD1)	Source: K162707-05			Prepared: 07/01/2016 Analyzed: 07/01/2016 20:07						
1,1,1-Trichloroethane	0.595	0.023	mg/kg dry	0.6246	ND	95.2	55.3-131	8.05	20	
1,1,2,2-Tetrachloroethane	0.588	0.023	mg/kg dry	0.6246	ND	94.1	29.5-139	9.11	20	



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2020 SW 4th Avenue
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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K607001 - EPA 3550B

Matrix Spike Dup (K607001-MSD1)	Source: K162707-05			Prepared: 07/01/2016 Analyzed: 07/01/2016 20:07						
1,1,2-Trichloroethane	0.549	0.023	mg/kg dry	0.6246	ND	88.0	56.2-134	7.19	20	
1,1-Dichloroethane	0.659	0.023	mg/kg dry	0.6246	ND	106	53.1-134	9.38	20	
1,1-Dichloroethene	0.647	0.023	mg/kg dry	0.6246	ND	104	20.5-183	12.7	20	
1,2,3-Trichlorobenzene	0.516	0.023	mg/kg dry	0.6246	ND	82.6	52-117	18.1	20	
1,2,4-Trichlorobenzene	0.542	0.023	mg/kg dry	0.6246	ND	86.8	58.7-116	10.8	20	
1,2,4-Trimethylbenzene	0.654	0.023	mg/kg dry	0.6246	ND	105	66.1-129	4.19	20	
1,2-Dichlorobenzene	0.567	0.023	mg/kg dry	0.6246	ND	90.7	71.9-113	6.48	20	
1,2-Dichloroethane	0.567	0.023	mg/kg dry	0.6246	ND	90.8	56.5-128	4.72	20	
1,3,5-Trimethylbenzene	0.684	0.023	mg/kg dry	0.6246	ND	110	65.4-133	5.28	20	
1,3-Dichlorobenzene	0.637	0.023	mg/kg dry	0.6246	ND	102	62.7-125	7.02	20	
1,4-Dichlorobenzene	0.629	0.023	mg/kg dry	0.6246	ND	101	61.9-122	13.4	20	
2-Chlorotoluene	0.653	0.023	mg/kg dry	0.6246	ND	105	67.4-133	3.32	20	
4-Chlorotoluene	0.635	0.023	mg/kg dry	0.6246	ND	102	63.3-132	5.54	20	
Benzene	0.622	0.023	mg/kg dry	0.6246	ND	99.5	55.4-126	7.54	20	
Carbon tetrachloride	0.593	0.023	mg/kg dry	0.6246	ND	95.0	44.2-136	9.66	20	
Chlorobenzene	0.608	0.023	mg/kg dry	0.6246	ND	97.4	69.8-113	10.0	20	
Chloroform	0.600	0.023	mg/kg dry	0.6246	ND	96.1	60.6-127	8.32	20	
Chloromethane	0.697	0.046	mg/kg dry	0.6246	ND	112	13.4-199	5.65	20	
cis-1,2-Dichloroethene	0.598	0.023	mg/kg dry	0.6246	ND	95.7	27.4-176	1.33	20	
Ethylbenzene	0.628	0.023	mg/kg dry	0.6246	ND	101	71.8-116	10.3	20	
Isopropylbenzene	0.644	0.023	mg/kg dry	0.6246	ND	103	74.2-123	11.9	20	
m,p-Xylene	1.25	0.046	mg/kg dry	1.249	ND	100	71.1-111	9.16	20	
Methylene chloride	0.661	0.092	mg/kg dry	0.6246	ND	106	67.2-127	10.4	20	
Naphthalene	0.503	0.023	mg/kg dry	0.6246	ND	80.6	51.2-119	18.0	20	
n-Butyl Benzene	0.659	0.023	mg/kg dry	0.6246	ND	105	70.8-124	7.13	20	
n-Propyl Benzene	0.674	0.023	mg/kg dry	0.6246	ND	108	64.2-140	4.78	20	
o-Xylene	0.613	0.023	mg/kg dry	0.6246	ND	98.1	68.4-113	8.76	20	
p-Isopropyltoluene	0.677	0.023	mg/kg dry	0.6246	ND	108	69.8-128	13.2	20	
sec-Butyl Benzene	0.670	0.023	mg/kg dry	0.6246	ND	107	68.2-129	6.31	20	
Styrene	0.575	0.023	mg/kg dry	0.6246	ND	92.0	70.5-119	7.02	20	
tert-Butylbenzene	0.733	0.023	mg/kg dry	0.6246	ND	117	68.3-131	15.0	20	
Tetrachloroethene	0.619	0.023	mg/kg dry	0.6246	ND	99.1	35.4-165	7.01	20	
Toluene	0.607	0.023	mg/kg dry	0.6246	ND	97.2	59.9-117	10.0	20	
trans-1,2-Dichloroethene	0.662	0.023	mg/kg dry	0.6246	ND	106	34.4-160	10.4	20	
Trichloroethene	0.587	0.023	mg/kg dry	0.6246	ND	93.9	27.7-173	7.61	20	
Vinyl chloride	0.748	0.023	mg/kg dry	0.6246	ND	120	17.8-199	9.14	20	
Surrogate: 1-Bromo-2-chloroethane	0.592		mg/kg dry	0.6246		94.9	44.1-130			
Surrogate: Toluene-d8	0.594		mg/kg dry	0.6246		95.1	42-136			
Surrogate: 4-Bromofluorobenzene	0.564		mg/kg dry	0.6246		90.3	54.2-145			



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CH2M 2020 SW 4th Avenue Portland OR, 97201	Project: Grain Handling Facility at Freeman - Freeman, WA Project Number: 2754
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Classical Chemistry Parameters - Quality Control
ECCS - Lab #11

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch K606003 - % Solids

Duplicate (K606003-DUP1)	Source: K162701-01		Prepared: 06/27/2016 Analyzed: 06/28/2016 09:10							
% Solids	84.8	0.00	% by Weight		85.0			0.184	20	

Batch K606005 - % Solids

Duplicate (K606005-DUP1)	Source: K162703-17		Prepared: 06/28/2016 Analyzed: 06/29/2016 10:45							
% Solids	79.8	0.00	% by Weight		79.7			0.134	20	

Batch K606007 - % Solids

Duplicate (K606007-DUP1)	Source: K162704-21		Prepared: 06/30/2016 Analyzed: 07/01/2016 09:09							
% Solids	69.3	0.00	% by Weight		69.5			0.373	20	

Duplicate (K606007-DUP2)	Source: K162705-10		Prepared: 06/30/2016 Analyzed: 07/01/2016 09:09							
% Solids	68.1	0.00	% by Weight		67.5			0.820	20	

Batch K607002 - % Solids

Duplicate (K607002-DUP1)	Source: K162707-04		Prepared: 07/01/2016 Analyzed: 07/01/2016 21:02							
% Solids	72.0	0.00	% by Weight		71.6			0.555	20	



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Project: Grain Handling Facility at Freeman - Freeman, WA
Project Number: 2754

Notes and Definitions

- X Precision for the matrix spike duplicate, laboratory control sample duplicate or lab duplicate was outside of control limits.
- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- LC Results may be biased low because of low continuing calibration verification (CCV).
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference

Appendix C

Chain of Custody Information

May 19, 2016

Mark Ochsner
CH2M Hill
2020 SW 4th Avenue
Portland, OR 97201

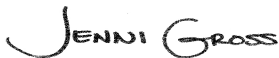
RE: Project: UPRR_Freeman
Pace Project No.: 1266358

Dear Mark Ochsner:

Enclosed are the analytical results for sample(s) received by the laboratory on May 18, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR_Freeman

Pace Project No.: 1266358

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618

North Dakota Certification #: R-214

Oregon Certification #: CA300002

Washington Certification #: C926-15a

California Certification #: 08263CA

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR_Freeman

Pace Project No.: 1266358

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1266358001	SB04-SS-15 split	Solid	05/16/16 13:45	05/18/16 09:30
1266358002	SB04-SS-25 split	Solid	05/16/16 14:10	05/18/16 09:30
1266358003	SB05-SS-15 split	Solid	05/17/16 11:40	05/18/16 09:30
1266358004	SB05-SS-20 split	Solid	05/17/16 12:05	05/18/16 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman
Pace Project No.: 1266358

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1266358001	SB04-SS-15 split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266358002	SB04-SS-25 split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266358003	SB05-SS-15 split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266358004	SB05-SS-20 split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman
Pace Project No.: 1266358

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1266358001	SB04-SS-15 split					
EPA 8260B	1,3,5-Trimethylbenzene	0.0069J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	1,3-Dichlorobenzene	0.0099J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	1,4-Dichlorobenzene	0.028J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	2-Hexanone	0.029J	mg/kg	2.2	05/18/16 14:01	B
EPA 8260B	Chlorobenzene	0.011J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	Chloroform	0.012J	mg/kg	0.22	05/18/16 14:01	
EPA 8260B	Hexachloro-1,3-butadiene	0.0069J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	Naphthalene	0.014J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	Styrene	0.0066J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	o-Xylene	0.0099J	mg/kg	0.22	05/18/16 14:01	B
EPA 8260B	trans-1,3-Dichloropropene	0.0073J	mg/kg	0.22	05/18/16 14:01	
% Moisture	Percent Moisture	14.7	%	0.10	05/18/16 13:03	
1266358002	SB04-SS-25 split					
EPA 8260B	1,3-Dichlorobenzene	0.0059J	mg/kg	0.31	05/18/16 14:30	B
EPA 8260B	1,4-Dichlorobenzene	0.033J	mg/kg	0.31	05/18/16 14:30	B
EPA 8260B	Carbon tetrachloride	0.017J	mg/kg	0.31	05/18/16 14:30	
% Moisture	Percent Moisture	36.0	%	0.10	05/18/16 13:03	
1266358003	SB05-SS-15 split					
EPA 8260B	1,2-Dichloroethane	0.015J	mg/kg	0.22	05/18/16 14:51	
EPA 8260B	1,3-Dichlorobenzene	0.0029J	mg/kg	0.22	05/18/16 14:51	B
EPA 8260B	1,4-Dichlorobenzene	0.018J	mg/kg	0.22	05/18/16 14:51	B
% Moisture	Percent Moisture	16.6	%	0.10	05/18/16 13:03	
1266358004	SB05-SS-20 split					
EPA 8260B	1,4-Dichlorobenzene	0.034J	mg/kg	0.32	05/18/16 15:11	B
EPA 8260B	Chlorobenzene	0.0077J	mg/kg	0.32	05/18/16 15:11	B
% Moisture	Percent Moisture	30.1	%	0.10	05/18/16 13:03	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1266358

Method: EPA 8260B

Description: 8260 MSV Med Soil

Client: UPRR_CH2M Hill

Date: May 19, 2016

General Information:

4 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

B: Analyte was detected in the associated method blank.

- SB04-SS-15 split (Lab ID: 1266358001)
- SB04-SS-25 split (Lab ID: 1266358002)
- SB05-SS-15 split (Lab ID: 1266358003)
- SB05-SS-20 split (Lab ID: 1266358004)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: DAVM/3767

B: Analyte was detected in the associated method blank.

- SB04-SS-15 split (Lab ID: 1266358001)
 - 1,3-Dichlorobenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1266358

Method: EPA 8260B

Description: 8260 MSV Med Soil

Client: UPRR_CH2M Hill

Date: May 19, 2016

Analyte Comments:

QC Batch: DAVM/3767

B: Analyte was detected in the associated method blank.

- SB04-SS-15 split (Lab ID: 1266358001)
 - 1,3,5-Trimethylbenzene
 - 1,4-Dichlorobenzene
 - 2-Hexanone
 - Chlorobenzene
 - Hexachloro-1,3-butadiene
 - Naphthalene
 - o-Xylene
 - Styrene
- SB04-SS-25 split (Lab ID: 1266358002)
 - 1,3-Dichlorobenzene
 - 1,4-Dichlorobenzene
- SB05-SS-15 split (Lab ID: 1266358003)
 - 1,3-Dichlorobenzene
 - 1,4-Dichlorobenzene
- SB05-SS-20 split (Lab ID: 1266358004)
 - 1,4-Dichlorobenzene
 - Chlorobenzene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1266358

Method: % Moisture

Description: Dry Weight, Davis

Client: UPRR_CH2M Hill

Date: May 19, 2016

General Information:

4 samples were analyzed for % Moisture. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB04-SS-15 split Lab ID: 1266358001 Collected: 05/16/16 13:45 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0046	mg/kg	0.22	0.0046	1	05/18/16 12:08	05/18/16 14:01	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0038	mg/kg	0.22	0.0038	1	05/18/16 12:08	05/18/16 14:01	79-34-5	
1,1,2-Trichloroethane	<0.0050	mg/kg	0.22	0.0050	1	05/18/16 12:08	05/18/16 14:01	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0057	mg/kg	0.22	0.0057	1	05/18/16 12:08	05/18/16 14:01	76-13-1	
1,1-Dichloroethane	<0.0038	mg/kg	0.22	0.0038	1	05/18/16 12:08	05/18/16 14:01	75-34-3	
1,1-Dichloroethene	<0.0077	mg/kg	0.22	0.0077	1	05/18/16 12:08	05/18/16 14:01	75-35-4	
1,2,4-Trichlorobenzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	120-82-1	
1,2,4-Trimethylbenzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	95-63-6	
1,2-Dibromoethane (EDB)	<0.0044	mg/kg	0.22	0.0044	1	05/18/16 12:08	05/18/16 14:01	106-93-4	
1,2-Dichlorobenzene	<0.0036	mg/kg	0.22	0.0036	1	05/18/16 12:08	05/18/16 14:01	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.22	0.0029	1	05/18/16 12:08	05/18/16 14:01	107-06-2	
1,3,5-Trimethylbenzene	0.0069J	mg/kg	0.22	0.0015	1	05/18/16 12:08	05/18/16 14:01	108-67-8	B
1,3-Dichlorobenzene	0.0099J	mg/kg	0.22	0.0026	1	05/18/16 12:08	05/18/16 14:01	541-73-1	B
1,4-Dichlorobenzene	0.028J	mg/kg	0.22	0.0034	1	05/18/16 12:08	05/18/16 14:01	106-46-7	B
2-Butanone (MEK)	<0.043	mg/kg	2.2	0.043	1	05/18/16 12:08	05/18/16 14:01	78-93-3	
2-Hexanone	0.029J	mg/kg	2.2	0.017	1	05/18/16 12:08	05/18/16 14:01	591-78-6	B
4-Methyl-2-pentanone (MIBK)	<1.1	mg/kg	2.2	1.1	1	05/18/16 12:08	05/18/16 14:01	108-10-1	
Acetone	<0.15	mg/kg	2.2	0.15	1	05/18/16 12:08	05/18/16 14:01	67-64-1	
Benzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	71-43-2	
Bromodichloromethane	<0.0030	mg/kg	0.22	0.0030	1	05/18/16 12:08	05/18/16 14:01	75-27-4	
Bromoform	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	75-25-2	
Bromomethane	<0.0087	mg/kg	0.87	0.0087	1	05/18/16 12:08	05/18/16 14:01	74-83-9	
Carbon tetrachloride	<0.0042	mg/kg	0.22	0.0042	1	05/18/16 12:08	05/18/16 14:01	56-23-5	
Chlorobenzene	0.011J	mg/kg	0.22	0.0039	1	05/18/16 12:08	05/18/16 14:01	108-90-7	B
Chloroethane	<0.0045	mg/kg	0.22	0.0045	1	05/18/16 12:08	05/18/16 14:01	75-00-3	
Chloroform	0.012J	mg/kg	0.22	0.0038	1	05/18/16 12:08	05/18/16 14:01	67-66-3	
Chloromethane	<0.0048	mg/kg	0.22	0.0048	1	05/18/16 12:08	05/18/16 14:01	74-87-3	
Dibromochloromethane	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	124-48-1	
Dichlorodifluoromethane	<0.011	mg/kg	0.22	0.011	1	05/18/16 12:08	05/18/16 14:01	75-71-8	
Ethylbenzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	100-41-4	
Hexachloro-1,3-butadiene	0.0069J	mg/kg	0.22	0.0049	1	05/18/16 12:08	05/18/16 14:01	87-68-3	B
Methyl-tert-butyl ether	<0.0034	mg/kg	0.22	0.0034	1	05/18/16 12:08	05/18/16 14:01	1634-04-4	
Methylene Chloride	<0.0050	mg/kg	0.22	0.0050	1	05/18/16 12:08	05/18/16 14:01	75-09-2	
Naphthalene	0.014J	mg/kg	0.22	0.0096	1	05/18/16 12:08	05/18/16 14:01	91-20-3	B
Styrene	0.0066J	mg/kg	0.22	0.0023	1	05/18/16 12:08	05/18/16 14:01	100-42-5	B
Tetrachloroethene	<0.0035	mg/kg	0.22	0.0035	1	05/18/16 12:08	05/18/16 14:01	127-18-4	
Tetrahydrofuran	<0.063	mg/kg	4.3	0.063	1	05/18/16 12:08	05/18/16 14:01	109-99-9	
Toluene	<0.0096	mg/kg	0.22	0.0096	1	05/18/16 12:08	05/18/16 14:01	108-88-3	
Trichloroethene	<0.0031	mg/kg	0.22	0.0031	1	05/18/16 12:08	05/18/16 14:01	79-01-6	
Trichlorofluoromethane	<0.0041	mg/kg	0.22	0.0041	1	05/18/16 12:08	05/18/16 14:01	75-69-4	
Vinyl chloride	<0.0047	mg/kg	0.22	0.0047	1	05/18/16 12:08	05/18/16 14:01	75-01-4	
cis-1,2-Dichloroethene	<0.0051	mg/kg	0.22	0.0051	1	05/18/16 12:08	05/18/16 14:01	156-59-2	
cis-1,3-Dichloropropene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	10061-01-5	
m&p-Xylene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:01	179601-23-1	
o-Xylene	0.0099J	mg/kg	0.22	0.0033	1	05/18/16 12:08	05/18/16 14:01	95-47-6	B

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB04-SS-15 split **Lab ID: 1266358001** Collected: 05/16/16 13:45 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.012	mg/kg	0.22	0.012	1	05/18/16 12:08	05/18/16 14:01	156-60-5	
trans-1,3-Dichloropropene	0.0073J	mg/kg	0.22	0.0037	1	05/18/16 12:08	05/18/16 14:01	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	70-130		1	05/18/16 12:08	05/18/16 14:01	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1	05/18/16 12:08	05/18/16 14:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1	05/18/16 12:08	05/18/16 14:01	460-00-4	
Dry Weight, Davis									
Analytical Method: % Moisture									
Percent Moisture	14.7	%	0.10	0.10	1		05/18/16 13:03		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB04-SS-25 split Lab ID: 1266358002 Collected: 05/16/16 14:10 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0065	mg/kg	0.31	0.0065	1	05/18/16 12:08	05/18/16 14:30	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0054	mg/kg	0.31	0.0054	1	05/18/16 12:08	05/18/16 14:30	79-34-5	
1,1,2-Trichloroethane	<0.0070	mg/kg	0.31	0.0070	1	05/18/16 12:08	05/18/16 14:30	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0080	mg/kg	0.31	0.0080	1	05/18/16 12:08	05/18/16 14:30	76-13-1	
1,1-Dichloroethane	<0.0054	mg/kg	0.31	0.0054	1	05/18/16 12:08	05/18/16 14:30	75-34-3	
1,1-Dichloroethene	<0.011	mg/kg	0.31	0.011	1	05/18/16 12:08	05/18/16 14:30	75-35-4	
1,2,4-Trichlorobenzene	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	120-82-1	
1,2,4-Trimethylbenzene	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	95-63-6	
1,2-Dibromoethane (EDB)	<0.0063	mg/kg	0.31	0.0063	1	05/18/16 12:08	05/18/16 14:30	106-93-4	
1,2-Dichlorobenzene	<0.0050	mg/kg	0.31	0.0050	1	05/18/16 12:08	05/18/16 14:30	95-50-1	
1,2-Dichloroethane	<0.0041	mg/kg	0.31	0.0041	1	05/18/16 12:08	05/18/16 14:30	107-06-2	
1,3,5-Trimethylbenzene	<0.0021	mg/kg	0.31	0.0021	1	05/18/16 12:08	05/18/16 14:30	108-67-8	
1,3-Dichlorobenzene	0.0059J	mg/kg	0.31	0.0037	1	05/18/16 12:08	05/18/16 14:30	541-73-1	B
1,4-Dichlorobenzene	0.033J	mg/kg	0.31	0.0048	1	05/18/16 12:08	05/18/16 14:30	106-46-7	B
2-Butanone (MEK)	<0.060	mg/kg	3.1	0.060	1	05/18/16 12:08	05/18/16 14:30	78-93-3	
2-Hexanone	<0.023	mg/kg	3.1	0.023	1	05/18/16 12:08	05/18/16 14:30	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.5	mg/kg	3.1	1.5	1	05/18/16 12:08	05/18/16 14:30	108-10-1	
Acetone	<0.21	mg/kg	3.1	0.21	1	05/18/16 12:08	05/18/16 14:30	67-64-1	
Benzene	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	71-43-2	
Bromodichloromethane	<0.0043	mg/kg	0.31	0.0043	1	05/18/16 12:08	05/18/16 14:30	75-27-4	
Bromoform	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	75-25-2	
Bromomethane	<0.012	mg/kg	1.2	0.012	1	05/18/16 12:08	05/18/16 14:30	74-83-9	
Carbon tetrachloride	0.017J	mg/kg	0.31	0.0059	1	05/18/16 12:08	05/18/16 14:30	56-23-5	
Chlorobenzene	<0.0055	mg/kg	0.31	0.0055	1	05/18/16 12:08	05/18/16 14:30	108-90-7	
Chloroethane	<0.0064	mg/kg	0.31	0.0064	1	05/18/16 12:08	05/18/16 14:30	75-00-3	
Chloroform	<0.0054	mg/kg	0.31	0.0054	1	05/18/16 12:08	05/18/16 14:30	67-66-3	
Chloromethane	<0.0068	mg/kg	0.31	0.0068	1	05/18/16 12:08	05/18/16 14:30	74-87-3	
Dibromochloromethane	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	124-48-1	
Dichlorodifluoromethane	<0.016	mg/kg	0.31	0.016	1	05/18/16 12:08	05/18/16 14:30	75-71-8	
Ethylbenzene	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	100-41-4	
Hexachloro-1,3-butadiene	<0.0069	mg/kg	0.31	0.0069	1	05/18/16 12:08	05/18/16 14:30	87-68-3	
Methyl-tert-butyl ether	<0.0048	mg/kg	0.31	0.0048	1	05/18/16 12:08	05/18/16 14:30	1634-04-4	
Methylene Chloride	<0.0071	mg/kg	0.31	0.0071	1	05/18/16 12:08	05/18/16 14:30	75-09-2	
Naphthalene	<0.014	mg/kg	0.31	0.014	1	05/18/16 12:08	05/18/16 14:30	91-20-3	
Styrene	<0.0033	mg/kg	0.31	0.0033	1	05/18/16 12:08	05/18/16 14:30	100-42-5	
Tetrachloroethene	<0.0049	mg/kg	0.31	0.0049	1	05/18/16 12:08	05/18/16 14:30	127-18-4	
Tetrahydrofuran	<0.090	mg/kg	6.1	0.090	1	05/18/16 12:08	05/18/16 14:30	109-99-9	
Toluene	<0.014	mg/kg	0.31	0.014	1	05/18/16 12:08	05/18/16 14:30	108-88-3	
Trichloroethene	<0.0044	mg/kg	0.31	0.0044	1	05/18/16 12:08	05/18/16 14:30	79-01-6	
Trichlorofluoromethane	<0.0058	mg/kg	0.31	0.0058	1	05/18/16 12:08	05/18/16 14:30	75-69-4	
Vinyl chloride	<0.0066	mg/kg	0.31	0.0066	1	05/18/16 12:08	05/18/16 14:30	75-01-4	
cis-1,2-Dichloroethene	<0.0072	mg/kg	0.31	0.0072	1	05/18/16 12:08	05/18/16 14:30	156-59-2	
cis-1,3-Dichloropropene	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	10061-01-5	
m&p-Xylene	<0.15	mg/kg	0.31	0.15	1	05/18/16 12:08	05/18/16 14:30	179601-23-1	
o-Xylene	<0.0047	mg/kg	0.31	0.0047	1	05/18/16 12:08	05/18/16 14:30	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB04-SS-25 split **Lab ID: 1266358002** Collected: 05/16/16 14:10 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.017	mg/kg	0.31	0.017	1	05/18/16 12:08	05/18/16 14:30	156-60-5	
trans-1,3-Dichloropropene	<0.0052	mg/kg	0.31	0.0052	1	05/18/16 12:08	05/18/16 14:30	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	70-130			05/18/16 12:08	05/18/16 14:30	17060-07-0	
Toluene-d8 (S)	102	%	70-130			05/18/16 12:08	05/18/16 14:30	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130			05/18/16 12:08	05/18/16 14:30	460-00-4	
Dry Weight, Davis									
Analytical Method: % Moisture									
Percent Moisture	36.0	%	0.10	0.10	1		05/18/16 13:03		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB05-SS-15 split Lab ID: 1266358003 Collected: 05/17/16 11:40 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0046	mg/kg	0.22	0.0046	1	05/18/16 12:08	05/18/16 14:51	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0038	mg/kg	0.22	0.0038	1	05/18/16 12:08	05/18/16 14:51	79-34-5	
1,1,2-Trichloroethane	<0.0050	mg/kg	0.22	0.0050	1	05/18/16 12:08	05/18/16 14:51	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0057	mg/kg	0.22	0.0057	1	05/18/16 12:08	05/18/16 14:51	76-13-1	
1,1-Dichloroethane	<0.0038	mg/kg	0.22	0.0038	1	05/18/16 12:08	05/18/16 14:51	75-34-3	
1,1-Dichloroethene	<0.0078	mg/kg	0.22	0.0078	1	05/18/16 12:08	05/18/16 14:51	75-35-4	
1,2,4-Trichlorobenzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	120-82-1	
1,2,4-Trimethylbenzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	95-63-6	
1,2-Dibromoethane (EDB)	<0.0044	mg/kg	0.22	0.0044	1	05/18/16 12:08	05/18/16 14:51	106-93-4	
1,2-Dichlorobenzene	<0.0036	mg/kg	0.22	0.0036	1	05/18/16 12:08	05/18/16 14:51	95-50-1	
1,2-Dichloroethane	0.015J	mg/kg	0.22	0.0029	1	05/18/16 12:08	05/18/16 14:51	107-06-2	
1,3,5-Trimethylbenzene	<0.0015	mg/kg	0.22	0.0015	1	05/18/16 12:08	05/18/16 14:51	108-67-8	
1,3-Dichlorobenzene	0.0029J	mg/kg	0.22	0.0026	1	05/18/16 12:08	05/18/16 14:51	541-73-1	B
1,4-Dichlorobenzene	0.018J	mg/kg	0.22	0.0034	1	05/18/16 12:08	05/18/16 14:51	106-46-7	B
2-Butanone (MEK)	<0.043	mg/kg	2.2	0.043	1	05/18/16 12:08	05/18/16 14:51	78-93-3	
2-Hexanone	<0.017	mg/kg	2.2	0.017	1	05/18/16 12:08	05/18/16 14:51	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.1	mg/kg	2.2	1.1	1	05/18/16 12:08	05/18/16 14:51	108-10-1	
Acetone	<0.15	mg/kg	2.2	0.15	1	05/18/16 12:08	05/18/16 14:51	67-64-1	
Benzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	71-43-2	
Bromodichloromethane	<0.0030	mg/kg	0.22	0.0030	1	05/18/16 12:08	05/18/16 14:51	75-27-4	
Bromoform	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	75-25-2	
Bromomethane	<0.0087	mg/kg	0.87	0.0087	1	05/18/16 12:08	05/18/16 14:51	74-83-9	
Carbon tetrachloride	<0.0042	mg/kg	0.22	0.0042	1	05/18/16 12:08	05/18/16 14:51	56-23-5	
Chlorobenzene	<0.0039	mg/kg	0.22	0.0039	1	05/18/16 12:08	05/18/16 14:51	108-90-7	
Chloroethane	<0.0045	mg/kg	0.22	0.0045	1	05/18/16 12:08	05/18/16 14:51	75-00-3	
Chloroform	<0.0038	mg/kg	0.22	0.0038	1	05/18/16 12:08	05/18/16 14:51	67-66-3	
Chloromethane	<0.0048	mg/kg	0.22	0.0048	1	05/18/16 12:08	05/18/16 14:51	74-87-3	
Dibromochloromethane	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	124-48-1	
Dichlorodifluoromethane	<0.011	mg/kg	0.22	0.011	1	05/18/16 12:08	05/18/16 14:51	75-71-8	
Ethylbenzene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	100-41-4	
Hexachloro-1,3-butadiene	<0.0049	mg/kg	0.22	0.0049	1	05/18/16 12:08	05/18/16 14:51	87-68-3	
Methyl-tert-butyl ether	<0.0034	mg/kg	0.22	0.0034	1	05/18/16 12:08	05/18/16 14:51	1634-04-4	
Methylene Chloride	<0.0051	mg/kg	0.22	0.0051	1	05/18/16 12:08	05/18/16 14:51	75-09-2	
Naphthalene	<0.0096	mg/kg	0.22	0.0096	1	05/18/16 12:08	05/18/16 14:51	91-20-3	
Styrene	<0.0024	mg/kg	0.22	0.0024	1	05/18/16 12:08	05/18/16 14:51	100-42-5	
Tetrachloroethene	<0.0035	mg/kg	0.22	0.0035	1	05/18/16 12:08	05/18/16 14:51	127-18-4	
Tetrahydrofuran	<0.064	mg/kg	4.4	0.064	1	05/18/16 12:08	05/18/16 14:51	109-99-9	
Toluene	<0.0096	mg/kg	0.22	0.0096	1	05/18/16 12:08	05/18/16 14:51	108-88-3	
Trichloroethene	<0.0031	mg/kg	0.22	0.0031	1	05/18/16 12:08	05/18/16 14:51	79-01-6	
Trichlorofluoromethane	<0.0041	mg/kg	0.22	0.0041	1	05/18/16 12:08	05/18/16 14:51	75-69-4	
Vinyl chloride	<0.0047	mg/kg	0.22	0.0047	1	05/18/16 12:08	05/18/16 14:51	75-01-4	
cis-1,2-Dichloroethene	<0.0051	mg/kg	0.22	0.0051	1	05/18/16 12:08	05/18/16 14:51	156-59-2	
cis-1,3-Dichloropropene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	10061-01-5	
m&p-Xylene	<0.11	mg/kg	0.22	0.11	1	05/18/16 12:08	05/18/16 14:51	179601-23-1	
o-Xylene	<0.0033	mg/kg	0.22	0.0033	1	05/18/16 12:08	05/18/16 14:51	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB05-SS-15 split **Lab ID: 1266358003** Collected: 05/17/16 11:40 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.012	mg/kg	0.22	0.012	1	05/18/16 12:08	05/18/16 14:51	156-60-5	
trans-1,3-Dichloropropene	<0.0037	mg/kg	0.22	0.0037	1	05/18/16 12:08	05/18/16 14:51	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	70-130		1	05/18/16 12:08	05/18/16 14:51	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/18/16 12:08	05/18/16 14:51	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1	05/18/16 12:08	05/18/16 14:51	460-00-4	
Dry Weight, Davis									
Analytical Method: % Moisture									
Percent Moisture	16.6	%	0.10	0.10	1		05/18/16 13:03		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB05-SS-20 split Lab ID: 1266358004 Collected: 05/17/16 12:05 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0069	mg/kg	0.32	0.0069	1	05/18/16 12:08	05/18/16 15:11	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0057	mg/kg	0.32	0.0057	1	05/18/16 12:08	05/18/16 15:11	79-34-5	
1,1,2-Trichloroethane	<0.0074	mg/kg	0.32	0.0074	1	05/18/16 12:08	05/18/16 15:11	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0084	mg/kg	0.32	0.0084	1	05/18/16 12:08	05/18/16 15:11	76-13-1	
1,1-Dichloroethane	<0.0057	mg/kg	0.32	0.0057	1	05/18/16 12:08	05/18/16 15:11	75-34-3	
1,1-Dichloroethene	<0.012	mg/kg	0.32	0.012	1	05/18/16 12:08	05/18/16 15:11	75-35-4	
1,2,4-Trichlorobenzene	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	120-82-1	
1,2,4-Trimethylbenzene	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	95-63-6	
1,2-Dibromoethane (EDB)	<0.0066	mg/kg	0.32	0.0066	1	05/18/16 12:08	05/18/16 15:11	106-93-4	
1,2-Dichlorobenzene	<0.0053	mg/kg	0.32	0.0053	1	05/18/16 12:08	05/18/16 15:11	95-50-1	
1,2-Dichloroethane	<0.0043	mg/kg	0.32	0.0043	1	05/18/16 12:08	05/18/16 15:11	107-06-2	
1,3,5-Trimethylbenzene	<0.0022	mg/kg	0.32	0.0022	1	05/18/16 12:08	05/18/16 15:11	108-67-8	
1,3-Dichlorobenzene	<0.0039	mg/kg	0.32	0.0039	1	05/18/16 12:08	05/18/16 15:11	541-73-1	
1,4-Dichlorobenzene	0.034J	mg/kg	0.32	0.0051	1	05/18/16 12:08	05/18/16 15:11	106-46-7	B
2-Butanone (MEK)	<0.063	mg/kg	3.2	0.063	1	05/18/16 12:08	05/18/16 15:11	78-93-3	
2-Hexanone	<0.025	mg/kg	3.2	0.025	1	05/18/16 12:08	05/18/16 15:11	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.6	mg/kg	3.2	1.6	1	05/18/16 12:08	05/18/16 15:11	108-10-1	
Acetone	<0.22	mg/kg	3.2	0.22	1	05/18/16 12:08	05/18/16 15:11	67-64-1	
Benzene	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	71-43-2	
Bromodichloromethane	<0.0045	mg/kg	0.32	0.0045	1	05/18/16 12:08	05/18/16 15:11	75-27-4	
Bromoform	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	75-25-2	
Bromomethane	<0.013	mg/kg	1.3	0.013	1	05/18/16 12:08	05/18/16 15:11	74-83-9	
Carbon tetrachloride	<0.0062	mg/kg	0.32	0.0062	1	05/18/16 12:08	05/18/16 15:11	56-23-5	
Chlorobenzene	0.0077J	mg/kg	0.32	0.0058	1	05/18/16 12:08	05/18/16 15:11	108-90-7	B
Chloroethane	<0.0067	mg/kg	0.32	0.0067	1	05/18/16 12:08	05/18/16 15:11	75-00-3	
Chloroform	<0.0057	mg/kg	0.32	0.0057	1	05/18/16 12:08	05/18/16 15:11	67-66-3	
Chloromethane	<0.0071	mg/kg	0.32	0.0071	1	05/18/16 12:08	05/18/16 15:11	74-87-3	
Dibromochloromethane	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	124-48-1	
Dichlorodifluoromethane	<0.017	mg/kg	0.32	0.017	1	05/18/16 12:08	05/18/16 15:11	75-71-8	
Ethylbenzene	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	100-41-4	
Hexachloro-1,3-butadiene	<0.0073	mg/kg	0.32	0.0073	1	05/18/16 12:08	05/18/16 15:11	87-68-3	
Methyl-tert-butyl ether	<0.0051	mg/kg	0.32	0.0051	1	05/18/16 12:08	05/18/16 15:11	1634-04-4	
Methylene Chloride	<0.0075	mg/kg	0.32	0.0075	1	05/18/16 12:08	05/18/16 15:11	75-09-2	
Naphthalene	<0.014	mg/kg	0.32	0.014	1	05/18/16 12:08	05/18/16 15:11	91-20-3	
Styrene	<0.0035	mg/kg	0.32	0.0035	1	05/18/16 12:08	05/18/16 15:11	100-42-5	
Tetrachloroethene	<0.0052	mg/kg	0.32	0.0052	1	05/18/16 12:08	05/18/16 15:11	127-18-4	
Tetrahydrofuran	<0.095	mg/kg	6.5	0.095	1	05/18/16 12:08	05/18/16 15:11	109-99-9	
Toluene	<0.014	mg/kg	0.32	0.014	1	05/18/16 12:08	05/18/16 15:11	108-88-3	
Trichloroethene	<0.0047	mg/kg	0.32	0.0047	1	05/18/16 12:08	05/18/16 15:11	79-01-6	
Trichlorofluoromethane	<0.0061	mg/kg	0.32	0.0061	1	05/18/16 12:08	05/18/16 15:11	75-69-4	
Vinyl chloride	<0.0070	mg/kg	0.32	0.0070	1	05/18/16 12:08	05/18/16 15:11	75-01-4	
cis-1,2-Dichloroethene	<0.0076	mg/kg	0.32	0.0076	1	05/18/16 12:08	05/18/16 15:11	156-59-2	
cis-1,3-Dichloropropene	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	10061-01-5	
m&p-Xylene	<0.16	mg/kg	0.32	0.16	1	05/18/16 12:08	05/18/16 15:11	179601-23-1	
o-Xylene	<0.0049	mg/kg	0.32	0.0049	1	05/18/16 12:08	05/18/16 15:11	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266358

Sample: SB05-SS-20 split **Lab ID: 1266358004** Collected: 05/17/16 12:05 Received: 05/18/16 09:30 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.018	mg/kg	0.32	0.018	1	05/18/16 12:08	05/18/16 15:11	156-60-5	
trans-1,3-Dichloropropene	<0.0054	mg/kg	0.32	0.0054	1	05/18/16 12:08	05/18/16 15:11	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1	05/18/16 12:08	05/18/16 15:11	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1	05/18/16 12:08	05/18/16 15:11	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1	05/18/16 12:08	05/18/16 15:11	460-00-4	
Dry Weight, Davis									
Analytical Method: % Moisture									
Percent Moisture	30.1	%	0.10	0.10	1		05/18/16 13:03		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman
Pace Project No.: 1266358

QC Batch: DAVM/3767 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Soil
Associated Lab Samples: 1266358001, 1266358002, 1266358003, 1266358004

METHOD BLANK: 319027 Matrix: Solid
Associated Lab Samples: 1266358001, 1266358002, 1266358003, 1266358004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	<0.0053	0.25	0.0053	05/18/16 13:21	
1,1,2,2-Tetrachloroethane	mg/kg	0.023J	0.25	0.0044	05/18/16 13:21	
1,1,2-Trichloroethane	mg/kg	<0.0057	0.25	0.0057	05/18/16 13:21	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.0065	0.25	0.0065	05/18/16 13:21	
1,1-Dichloroethane	mg/kg	<0.0044	0.25	0.0044	05/18/16 13:21	
1,1-Dichloroethene	mg/kg	<0.0089	0.25	0.0089	05/18/16 13:21	
1,2,4-Trichlorobenzene	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
1,2,4-Trimethylbenzene	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
1,2-Dibromoethane (EDB)	mg/kg	<0.0051	0.25	0.0051	05/18/16 13:21	
1,2-Dichlorobenzene	mg/kg	0.024J	0.25	0.0041	05/18/16 13:21	
1,2-Dichloroethane	mg/kg	<0.0033	0.25	0.0033	05/18/16 13:21	
1,3,5-Trimethylbenzene	mg/kg	0.015J	0.25	0.0017	05/18/16 13:21	
1,3-Dichlorobenzene	mg/kg	0.020J	0.25	0.0030	05/18/16 13:21	
1,4-Dichlorobenzene	mg/kg	0.044J	0.25	0.0039	05/18/16 13:21	
2-Butanone (MEK)	mg/kg	<0.049	2.5	0.049	05/18/16 13:21	
2-Hexanone	mg/kg	0.054J	2.5	0.019	05/18/16 13:21	
4-Methyl-2-pentanone (MIBK)	mg/kg	<1.2	2.5	1.2	05/18/16 13:21	
Acetone	mg/kg	<0.17	2.5	0.17	05/18/16 13:21	
Benzene	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
Bromodichloromethane	mg/kg	<0.0035	0.25	0.0035	05/18/16 13:21	
Bromoform	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
Bromomethane	mg/kg	<0.010	1.0	0.010	05/18/16 13:21	
Carbon tetrachloride	mg/kg	<0.0048	0.25	0.0048	05/18/16 13:21	
Chlorobenzene	mg/kg	0.0080J	0.25	0.0045	05/18/16 13:21	
Chloroethane	mg/kg	<0.0052	0.25	0.0052	05/18/16 13:21	
Chloroform	mg/kg	<0.0044	0.25	0.0044	05/18/16 13:21	
Chloromethane	mg/kg	<0.0055	0.25	0.0055	05/18/16 13:21	
cis-1,2-Dichloroethene	mg/kg	<0.0059	0.25	0.0059	05/18/16 13:21	
cis-1,3-Dichloropropene	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
Dibromochloromethane	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
Dichlorodifluoromethane	mg/kg	<0.013	0.25	0.013	05/18/16 13:21	
Ethylbenzene	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
Hexachloro-1,3-butadiene	mg/kg	0.034J	0.25	0.0056	05/18/16 13:21	
m&p-Xylene	mg/kg	<0.12	0.25	0.12	05/18/16 13:21	
Methyl-tert-butyl ether	mg/kg	<0.0039	0.25	0.0039	05/18/16 13:21	
Methylene Chloride	mg/kg	<0.0058	0.25	0.0058	05/18/16 13:21	
Naphthalene	mg/kg	0.053J	0.25	0.011	05/18/16 13:21	
o-Xylene	mg/kg	0.0090J	0.25	0.0038	05/18/16 13:21	
Styrene	mg/kg	0.011J	0.25	0.0027	05/18/16 13:21	
Tetrachloroethane	mg/kg	<0.0040	0.25	0.0040	05/18/16 13:21	
Tetrahydrofuran	mg/kg	<0.073	5.0	0.073	05/18/16 13:21	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1266358

METHOD BLANK: 319027

Matrix: Solid

Associated Lab Samples: 1266358001, 1266358002, 1266358003, 1266358004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	<0.011	0.25	0.011	05/18/16 13:21	
trans-1,2-Dichloroethane	mg/kg	<0.014	0.25	0.014	05/18/16 13:21	
trans-1,3-Dichloropropene	mg/kg	<0.0042	0.25	0.0042	05/18/16 13:21	
Trichloroethene	mg/kg	<0.0036	0.25	0.0036	05/18/16 13:21	
Trichlorofluoromethane	mg/kg	<0.0047	0.25	0.0047	05/18/16 13:21	
Vinyl chloride	mg/kg	<0.0054	0.25	0.0054	05/18/16 13:21	
1,2-Dichloroethane-d4 (S)	%	94	70-130		05/18/16 13:21	
4-Bromofluorobenzene (S)	%	100	70-130		05/18/16 13:21	
Toluene-d8 (S)	%	100	70-130		05/18/16 13:21	

LABORATORY CONTROL SAMPLE & LCSD: 319028

319026

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	mg/kg	2	1.9	1.9	96	93	75-126	3	25	
1,1,2,2-Tetrachloroethane	mg/kg	2	1.9	2.1	97	103	58-140	6	25	
1,1,2-Trichloroethane	mg/kg	2	1.8	1.9	90	95	57-136	6	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	2	1.8	1.9	88	94	70-130	6	25	
1,1-Dichloroethane	mg/kg	2	1.9	1.9	95	94	75-125	1	25	
1,1-Dichloroethene	mg/kg	2	1.7	1.7	83	86	74-125	3	25	
1,2,4-Trichlorobenzene	mg/kg	2	1.9	2.0	95	99	75-139	4	25	
1,2,4-Trimethylbenzene	mg/kg	2	2.0	2.0	100	100	75-128	0	25	
1,2-Dibromoethane (EDB)	mg/kg	2	1.8	1.9	92	93	60-138	1	25	
1,2-Dichlorobenzene	mg/kg	2	1.9	2.0	97	100	75-125	2	25	
1,2-Dichloroethane	mg/kg	2	1.8	1.8	90	88	75-125	2	25	
1,3,5-Trimethylbenzene	mg/kg	2	1.9	2.0	97	98	75-125	0	25	
1,3-Dichlorobenzene	mg/kg	2	2.0	2.0	99	99	75-125	0	25	
1,4-Dichlorobenzene	mg/kg	2	1.9	1.9	95	95	75-125	0	25	
2-Butanone (MEK)	mg/kg	10	8.2	8.8	82	88	70-130	7	25	
2-Hexanone	mg/kg	10	9.0	9.8	90	98	70-130	8	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	10	9.1	10	91	100	70-130	9	25	
Acetone	mg/kg	10	8.3	9.1	83	91	70-130	9	25	
Benzene	mg/kg	2	1.9	1.8	93	91	75-125	2	25	
Bromodichloromethane	mg/kg	2	1.9	1.8	93	91	75-125	2	25	
Bromoform	mg/kg	2	1.8	1.9	91	95	61-125	4	25	
Bromomethane	mg/kg	2	1.4	1.4	68	68	30-125	1	25	
Carbon tetrachloride	mg/kg	2	1.9	1.8	94	90	72-136	5	25	
Chlorobenzene	mg/kg	2	1.9	1.9	95	93	75-125	2	25	
Chloroethane	mg/kg	2	2.3	2.3	115	113	30-134	1	25	
Chloroform	mg/kg	2	1.9	1.8	94	92	75-125	2	25	
Chloromethane	mg/kg	2	1.5	1.7	75	83	54-128	11	25	
cis-1,2-Dichloroethene	mg/kg	2	1.8	1.7	91	87	75-125	4	25	
cis-1,3-Dichloropropene	mg/kg	2	2.0	2.0	100	100	75-132	0	25	
Dibromochloromethane	mg/kg	2	1.9	1.9	97	93	47-139	4	25	
Dichlorodifluoromethane	mg/kg	2	1.3	1.5	63	76	47-125	18	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1266358

LABORATORY CONTROL SAMPLE & LCSD: 319028		319026									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Ethylbenzene	mg/kg	2	2.0	2.0	100	101	75-128	1	25		
Hexachloro-1,3-butadiene	mg/kg	2	1.9	2.0	96	100	75-131	4	25		
m&p-Xylene	mg/kg	4	4.0	3.8	99	96	75-131	3	25		
Methyl-tert-butyl ether	mg/kg	2	1.8	1.8	91	92	75-125	1	25		
Methylene Chloride	mg/kg	2	1.8	1.9	90	93	70-133	4	25		
Naphthalene	mg/kg	2	1.9	2.0	94	100	75-126	6	25		
o-Xylene	mg/kg	2	1.9	1.9	95	97	75-127	3	25		
Styrene	mg/kg	2	2.0	1.9	98	97	75-130	1	25		
Tetrachloroethene	mg/kg	2	1.9	1.9	96	94	75-125	3	25		
Tetrahydrofuran	mg/kg	20	16.6	18.5	83	93	70-130	11	25		
Toluene	mg/kg	2	1.9	1.9	97	93	75-125	4	25		
trans-1,2-Dichloroethene	mg/kg	2	1.8	1.8	90	91	75-125	1	25		
trans-1,3-Dichloropropene	mg/kg	2	2.0	2.0	98	98	60-140	0	25		
Trichloroethene	mg/kg	2	1.8	1.8	89	91	75-125	2	25		
Trichlorofluoromethane	mg/kg	2	1.7	1.6	83	79	30-135	5	25		
Vinyl chloride	mg/kg	2	1.6	1.7	79	86	65-134	9	25		
1,2-Dichloroethane-d4 (S)	%				96	93	70-130				
4-Bromofluorobenzene (S)	%				103	102	70-130				
Toluene-d8 (S)	%				100	98	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR_Freeman
Pace Project No.: 1266358

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR_Freeman

Pace Project No.: 1266358

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1266358001	SB04-SS-15 split	EPA 5035/5030B	DAVM/3767	EPA 8260B	DAVM/3769
1266358002	SB04-SS-25 split	EPA 5035/5030B	DAVM/3767	EPA 8260B	DAVM/3769
1266358003	SB05-SS-15 split	EPA 5035/5030B	DAVM/3767	EPA 8260B	DAVM/3769
1266358004	SB05-SS-20 split	EPA 5035/5030B	DAVM/3767	EPA 8260B	DAVM/3769
1266358001	SB04-SS-15 split	% Moisture	DAWT/2064		
1266358002	SB04-SS-25 split	% Moisture	DAWT/2064		
1266358003	SB05-SS-15 split	% Moisture	DAWT/2064		
1266358004	SB05-SS-20 split	% Moisture	DAWT/2064		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Client Name: CH2M Hill Project #: _____

WO# : 1266358



1266358

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other: _____
 Tracking Number: 7831 1304 3001

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No 05/18/16

Thermom. Used: DA1434 DA2285 Type of Ice: Wet Blue Dry Ice None Samples on ice, cooling process has begun
 Cooler Temp Read(°C): 4.6 Cooler Temp Corrected(°C): 5.0 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 1.04 Date and Initials of Person Examining Contents: _____

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH >12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____


Comments/Resolution: _____

Project Manager Review: SMF for Jenni Gross

Date: 5/18/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

1266358

	Document Name: Soil Checklist	Document Revised: 13Jan2016 Page 1 of 1
	Document No.: F-DAV-C-028-Rev.00	Issuing Authority: Pace Davis Quality Office

SOIL CHECKLIST

To Be Completed by SR Staff:

Client: UPRR Date: 05/18/16 Initials: ESJ

Are any samples from a depth of ≤ 6 ft?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not indicated (If No, proceed with receipt, samples are not regulated.)
Sample Origin (circle one):	FOREIGN DOMESTIC
<i>(Note: soil samples from Hawaii and Puerto Rico are considered to be of a Foreign Source)</i>	
If Foreign, list County of Origin:	
If Domestic, circle State of Origin:	AL AR AZ CA FL GA ID LA MS NC NM NY OK OR SC TN TX WA
	<input type="checkbox"/> NONE OF THE ABOVE (If None of the Above, proceed with receipt, samples are not regulated.)
If from a circled state above, County of Origin	<i>If unknown, contact PM. Project cannot be received until this is determined.</i> <u>N/A</u>
Is County of Origin in a Regulated or Quarantined Zone?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (If No, proceed with receipt, samples are not regulated.) <i>(See comments below)</i>

REQUIREMENT	ACTION	COMPLETED		
Samples from a depth of > 6 feet are not regulated under APHIS / USDA guidelines	Were samples segregated by depth ≤ or > 6 feet? (if samples from > 6 feet were in direct contact with soil from ≤ 6 ft, all soils must be treated as regulated.)	YES	NO	N/A
Yellow stickers are to be placed on all regulated samples.	Did yellow stickers get placed on all sample containers?	YES	NO	
Samples must be segregated and stored in designated bins, shelves and coolers.	Were samples placed in a designated cooler, containers and shelves?	YES	NO	
Samples must be double contained to prevent accidental release.	Were there any signs of breakage or leakage (check for broken glass and/or loose soil in the cooler)?	YES	NO	
	<i>If NO, ice and melt water can be disposed of by normal process (down the drain).</i>			
	If YES, were ice and melt water separated from the cooler and disposed of properly?	YES	NO	N/A
	<i>Any broken glass and/or loose soil are to be bagged and placed in a USDA Regulated satellite container or active drum (see Waste Coordinator). Ice and melt water must be containerized and sterilized by adding enough bleach to achieve a 10% concentration and allowed to sit for ≥ 30 minutes before disposing.</i>			
Equipment and supplies that have come into contact samples must be decontaminated.	Was the cooler(s) and/or countertop(s) decontaminated using a fresh 10% bleach solution? (Gloves and other lab supplies will be bagged and placed in the SR USDA Regulated satellite container).	YES	NO	

To Be Completed by PM/PC for Regulated Soils:

Sample Analysis to be conducted at (circle all that apply): Davis Subcontract Lab
Name of Subcontract Lab(s): _____

REQUIREMENT	ACTION	COMPLETED		
USDA / APHIS rep must be informed by email prior to shipping untreated soil to any subcontract lab, including IR Pace Labs.	Anthony Jackson, USDA APHIS PPQ Tel.: (916) 930-5536 Email: Anthony.S.Jackson@aphis.usda.gov	YES	NO	N/A
Shipment must include a valid copy of the receiving lab's permit along with all required forms.	Is a copy of all needed paperwork included with the COC? Do NOT ship samples until all necessary paperwork is compiled.	YES	NO	N/A

Comments: The COC states location is "WA" Washington does not have any countries which are regulated.

Project Manager Signature: Scott Feltus Date: 5/18/16

May 27, 2016

Mark Ochsner
CH2M Hill
2020 SW 4th Avenue
Portland, OR 97201

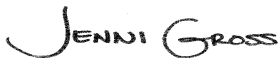
RE: Project: UPRR_Freeman
Pace Project No.: 1266743

Dear Mark Ochsner:

Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR_Freeman
Pace Project No.: 1266743

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002

Washington Certification #: C926-15a
California Certification #: 08263CA

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR_Freeman

Pace Project No.: 1266743

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1266743001	SB06-SS-35SPLIT	Solid	05/18/16 16:45	05/24/16 09:45
1266743002	SB06-SS-40SPLIT	Solid	05/18/16 17:05	05/24/16 09:45
1266743003	SB07-SS-20SPLIT	Solid	05/20/16 10:20	05/24/16 09:45
1266743004	SB07-SS-35SPLIT	Solid	05/20/16 10:55	05/24/16 09:45
1266743005	MW5-SS-15SPLIT	Solid	05/20/16 16:35	05/24/16 09:45
1266743006	MW5-SS-20SPLIT	Solid	05/20/16 16:45	05/24/16 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman

Pace Project No.: 1266743

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1266743001	SB06-SS-35SPLIT	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266743002	SB06-SS-40SPLIT	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266743003	SB07-SS-20SPLIT	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266743004	SB07-SS-35SPLIT	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266743005	MW5-SS-15SPLIT	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266743006	MW5-SS-20SPLIT	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman
Pace Project No.: 1266743

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
1266743001	SB06-SS-35SPLIT					
EPA 8260B	1,1,1-Trichloroethane	0.015J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,1,2,2-Tetrachloroethane	0.025J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,1,2-Trichloroethane	0.027J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,2-Dibromoethane (EDB)	0.021J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,2-Dichlorobenzene	0.024J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,2-Dichloroethane	0.036J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,3,5-Trimethylbenzene	0.020J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,3-Dichlorobenzene	0.022J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	1,4-Dichlorobenzene	0.027J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	2-Hexanone	0.12J	mg/kg	2.9	05/25/16 18:54	B
EPA 8260B	Chlorobenzene	0.026J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	Chloroform	0.016J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	Hexachloro-1,3-butadiene	0.025J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	Naphthalene	0.030J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	Styrene	0.021J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	Tetrahydrofuran	0.25J	mg/kg	5.9	05/25/16 18:54	B
EPA 8260B	Toluene	0.024J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	Trichloroethene	0.021J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	cis-1,2-Dichloroethene	0.019J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	o-Xylene	0.021J	mg/kg	0.29	05/25/16 18:54	B
EPA 8260B	trans-1,3-Dichloropropene	0.016J	mg/kg	0.29	05/25/16 18:54	B
% Moisture	Percent Moisture	29.9	%	0.10	05/25/16 16:01	
1266743002	SB06-SS-40SPLIT					
EPA 8260B	1,3-Dichlorobenzene	0.0077J	mg/kg	0.25	05/25/16 20:41	B
EPA 8260B	1,4-Dichlorobenzene	0.0094J	mg/kg	0.25	05/25/16 20:41	B
EPA 8260B	2-Hexanone	0.028J	mg/kg	2.5	05/25/16 20:41	B
EPA 8260B	Chlorobenzene	0.0077J	mg/kg	0.25	05/25/16 20:41	B
EPA 8260B	Naphthalene	0.014J	mg/kg	0.25	05/25/16 20:41	B
EPA 8260B	o-Xylene	0.0069J	mg/kg	0.25	05/25/16 20:41	B
% Moisture	Percent Moisture	25.5	%	0.10	05/25/16 16:04	
1266743003	SB07-SS-20SPLIT					
EPA 8260B	1,2-Dichloroethane	0.022J	mg/kg	0.31	05/25/16 21:01	B
EPA 8260B	1,3,5-Trimethylbenzene	0.0054J	mg/kg	0.31	05/25/16 21:01	B
EPA 8260B	1,3-Dichlorobenzene	0.0075J	mg/kg	0.31	05/25/16 21:01	B
EPA 8260B	1,4-Dichlorobenzene	0.012J	mg/kg	0.31	05/25/16 21:01	B
EPA 8260B	2-Hexanone	0.030J	mg/kg	3.1	05/25/16 21:01	B
EPA 8260B	Chlorobenzene	0.0088J	mg/kg	0.31	05/25/16 21:01	B
EPA 8260B	Tetrahydrofuran	0.093J	mg/kg	6.1	05/25/16 21:01	B
EPA 8260B	o-Xylene	0.0067J	mg/kg	0.31	05/25/16 21:01	B
% Moisture	Percent Moisture	32.9	%	0.10	05/25/16 16:07	
1266743004	SB07-SS-35SPLIT					
% Moisture	Percent Moisture	28.0	%	0.10	05/25/16 16:08	
1266743005	MW5-SS-15SPLIT					
% Moisture	Percent Moisture	20.1	%	0.10	05/25/16 16:13	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman

Pace Project No.: 1266743

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
1266743006	MW5-SS-20SPLIT					
% Moisture	Percent Moisture	18.2	%	0.10	05/25/16 16:15	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1266743

Method: EPA 8260B

Description: 8260 MSV Med Soil

Client: UPRR_CH2M Hill

Date: May 27, 2016

General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

B: Analyte was detected in the associated method blank.

- SB06-SS-35SPLIT (Lab ID: 1266743001)
- SB06-SS-40SPLIT (Lab ID: 1266743002)
- SB07-SS-20SPLIT (Lab ID: 1266743003)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: DAVM/3833

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1266743001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 322078)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,1-Dichloroethene
 - Dichlorodifluoromethane
 - Vinyl chloride

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1266743

Method: EPA 8260B

Description: 8260 MSV Med Soil

Client: UPRR_CH2M Hill

Date: May 27, 2016

QC Batch: DAVM/3833

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1266743001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 322079)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,1-Dichloroethene
 - Chloromethane
 - Dichlorodifluoromethane
 - Vinyl chloride
 - trans-1,2-Dichloroethene

Additional Comments:

Analyte Comments:

QC Batch: DAVM/3833

B: Analyte was detected in the associated method blank.

- SB06-SS-35SPLIT (Lab ID: 1266743001)
 - 1,1,1-Trichloroethane
 - 1,1,2-Trichloroethane
 - 1,1,2,2-Tetrachloroethane
 - 1,2-Dichlorobenzene
 - 1,2-Dichloroethane
 - 1,2-Dibromoethane (EDB)
 - 1,3-Dichlorobenzene
 - 1,3,5-Trimethylbenzene
 - 1,4-Dichlorobenzene
 - 2-Hexanone
 - cis-1,2-Dichloroethene
 - Chlorobenzene
 - Chloroform
 - Hexachloro-1,3-butadiene
 - Naphthalene
 - o-Xylene
 - Styrene
 - trans-1,3-Dichloropropene
 - Tetrahydrofuran
 - Toluene
 - Trichloroethene
- SB06-SS-40SPLIT (Lab ID: 1266743002)
 - 1,3-Dichlorobenzene
 - 1,4-Dichlorobenzene
 - 2-Hexanone
 - Chlorobenzene
 - Naphthalene
 - o-Xylene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1266743

Method: EPA 8260B

Description: 8260 MSV Med Soil

Client: UPRR_CH2M Hill

Date: May 27, 2016

Analyte Comments:

QC Batch: DAVM/3833

B: Analyte was detected in the associated method blank.

- SB07-SS-20SPLIT (Lab ID: 1266743003)
 - 1,2-Dichloroethane
 - 1,3-Dichlorobenzene
 - 1,3,5-Trimethylbenzene
 - 1,4-Dichlorobenzene
 - 2-Hexanone
 - Chlorobenzene
 - o-Xylene
 - Tetrahydrofuran

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1266743

Method: % Moisture
Description: Dry Weight, Davis
Client: UPRR_CH2M Hill
Date: May 27, 2016

General Information:

6 samples were analyzed for % Moisture. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: **SB06-SS-35SPLIT** Lab ID: **1266743001** Collected: 05/18/16 16:45 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	0.015J	mg/kg	0.29	0.0063	1	05/25/16 17:19	05/25/16 18:54	71-55-6	B
1,1,2,2-Tetrachloroethane	0.025J	mg/kg	0.29	0.0052	1	05/25/16 17:19	05/25/16 18:54	79-34-5	B
1,1,2-Trichloroethane	0.027J	mg/kg	0.29	0.0067	1	05/25/16 17:19	05/25/16 18:54	79-00-5	B
1,1,2-Trichlorotrifluoroethane	<0.0077	mg/kg	0.29	0.0077	1	05/25/16 17:19	05/25/16 18:54	76-13-1	M1
1,1-Dichloroethane	<0.0052	mg/kg	0.29	0.0052	1	05/25/16 17:19	05/25/16 18:54	75-34-3	
1,1-Dichloroethene	<0.010	mg/kg	0.29	0.010	1	05/25/16 17:19	05/25/16 18:54	75-35-4	M1
1,2,4-Trichlorobenzene	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	120-82-1	
1,2,4-Trimethylbenzene	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	95-63-6	
1,2-Dibromoethane (EDB)	0.021J	mg/kg	0.29	0.0060	1	05/25/16 17:19	05/25/16 18:54	106-93-4	B
1,2-Dichlorobenzene	0.024J	mg/kg	0.29	0.0048	1	05/25/16 17:19	05/25/16 18:54	95-50-1	B
1,2-Dichloroethane	0.036J	mg/kg	0.29	0.0039	1	05/25/16 17:19	05/25/16 18:54	107-06-2	B
1,3,5-Trimethylbenzene	0.020J	mg/kg	0.29	0.0020	1	05/25/16 17:19	05/25/16 18:54	108-67-8	B
1,3-Dichlorobenzene	0.022J	mg/kg	0.29	0.0035	1	05/25/16 17:19	05/25/16 18:54	541-73-1	B
1,4-Dichlorobenzene	0.027J	mg/kg	0.29	0.0046	1	05/25/16 17:19	05/25/16 18:54	106-46-7	B
2-Butanone (MEK)	<0.058	mg/kg	2.9	0.058	1	05/25/16 17:19	05/25/16 18:54	78-93-3	
2-Hexanone	0.12J	mg/kg	2.9	0.022	1	05/25/16 17:19	05/25/16 18:54	591-78-6	B
4-Methyl-2-pentanone (MIBK)	<1.5	mg/kg	2.9	1.5	1	05/25/16 17:19	05/25/16 18:54	108-10-1	
Acetone	<0.20	mg/kg	2.9	0.20	1	05/25/16 17:19	05/25/16 18:54	67-64-1	
Benzene	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	71-43-2	
Bromodichloromethane	<0.0041	mg/kg	0.29	0.0041	1	05/25/16 17:19	05/25/16 18:54	75-27-4	
Bromoform	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	75-25-2	
Bromomethane	<0.012	mg/kg	1.2	0.012	1	05/25/16 17:19	05/25/16 18:54	74-83-9	
Carbon tetrachloride	<0.0057	mg/kg	0.29	0.0057	1	05/25/16 17:19	05/25/16 18:54	56-23-5	
Chlorobenzene	0.026J	mg/kg	0.29	0.0053	1	05/25/16 17:19	05/25/16 18:54	108-90-7	B
Chloroethane	<0.0061	mg/kg	0.29	0.0061	1	05/25/16 17:19	05/25/16 18:54	75-00-3	
Chloroform	0.016J	mg/kg	0.29	0.0052	1	05/25/16 17:19	05/25/16 18:54	67-66-3	B
Chloromethane	<0.0065	mg/kg	0.29	0.0065	1	05/25/16 17:19	05/25/16 18:54	74-87-3	M1
Dibromochloromethane	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	124-48-1	
Dichlorodifluoromethane	<0.015	mg/kg	0.29	0.015	1	05/25/16 17:19	05/25/16 18:54	75-71-8	M1
Ethylbenzene	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	100-41-4	
Hexachloro-1,3-butadiene	0.025J	mg/kg	0.29	0.0066	1	05/25/16 17:19	05/25/16 18:54	87-68-3	B
Methyl-tert-butyl ether	<0.0046	mg/kg	0.29	0.0046	1	05/25/16 17:19	05/25/16 18:54	1634-04-4	
Methylene Chloride	<0.0068	mg/kg	0.29	0.0068	1	05/25/16 17:19	05/25/16 18:54	75-09-2	
Naphthalene	0.030J	mg/kg	0.29	0.013	1	05/25/16 17:19	05/25/16 18:54	91-20-3	B
Styrene	0.021J	mg/kg	0.29	0.0032	1	05/25/16 17:19	05/25/16 18:54	100-42-5	B
Tetrachloroethene	<0.0047	mg/kg	0.29	0.0047	1	05/25/16 17:19	05/25/16 18:54	127-18-4	
Tetrahydrofuran	0.25J	mg/kg	5.9	0.086	1	05/25/16 17:19	05/25/16 18:54	109-99-9	B
Toluene	0.024J	mg/kg	0.29	0.013	1	05/25/16 17:19	05/25/16 18:54	108-88-3	B
Trichloroethene	0.021J	mg/kg	0.29	0.0042	1	05/25/16 17:19	05/25/16 18:54	79-01-6	B
Trichlorofluoromethane	<0.0055	mg/kg	0.29	0.0055	1	05/25/16 17:19	05/25/16 18:54	75-69-4	
Vinyl chloride	<0.0064	mg/kg	0.29	0.0064	1	05/25/16 17:19	05/25/16 18:54	75-01-4	M1
cis-1,2-Dichloroethene	0.019J	mg/kg	0.29	0.0070	1	05/25/16 17:19	05/25/16 18:54	156-59-2	B
cis-1,3-Dichloropropene	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	10061-01-5	
m&p-Xylene	<0.15	mg/kg	0.29	0.15	1	05/25/16 17:19	05/25/16 18:54	179601-23-1	
o-Xylene	0.021J	mg/kg	0.29	0.0045	1	05/25/16 17:19	05/25/16 18:54	95-47-6	B

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: SB06-SS-35SPLIT **Lab ID: 1266743001** Collected: 05/18/16 16:45 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.017	mg/kg	0.29	0.017	1	05/25/16 17:19	05/25/16 18:54	156-60-5	M1
trans-1,3-Dichloropropene	0.016J	mg/kg	0.29	0.0050	1	05/25/16 17:19	05/25/16 18:54	10061-02-6	B
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	70-130		1	05/25/16 17:19	05/25/16 18:54	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 18:54	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1	05/25/16 17:19	05/25/16 18:54	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	29.9	%	0.10	0.10	1		05/25/16 16:01		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: SB06-SS-40SPLIT Lab ID: 1266743002 Collected: 05/18/16 17:05 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0054	mg/kg	0.25	0.0054	1	05/25/16 17:19	05/25/16 20:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0045	mg/kg	0.25	0.0045	1	05/25/16 17:19	05/25/16 20:41	79-34-5	
1,1,2-Trichloroethane	<0.0058	mg/kg	0.25	0.0058	1	05/25/16 17:19	05/25/16 20:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0066	mg/kg	0.25	0.0066	1	05/25/16 17:19	05/25/16 20:41	76-13-1	
1,1-Dichloroethane	<0.0045	mg/kg	0.25	0.0045	1	05/25/16 17:19	05/25/16 20:41	75-34-3	
1,1-Dichloroethene	<0.0091	mg/kg	0.25	0.0091	1	05/25/16 17:19	05/25/16 20:41	75-35-4	
1,2,4-Trichlorobenzene	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	120-82-1	
1,2,4-Trimethylbenzene	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	95-63-6	
1,2-Dibromoethane (EDB)	<0.0052	mg/kg	0.25	0.0052	1	05/25/16 17:19	05/25/16 20:41	106-93-4	
1,2-Dichlorobenzene	<0.0042	mg/kg	0.25	0.0042	1	05/25/16 17:19	05/25/16 20:41	95-50-1	
1,2-Dichloroethane	<0.0034	mg/kg	0.25	0.0034	1	05/25/16 17:19	05/25/16 20:41	107-06-2	
1,3,5-Trimethylbenzene	<0.0017	mg/kg	0.25	0.0017	1	05/25/16 17:19	05/25/16 20:41	108-67-8	
1,3-Dichlorobenzene	0.0077J	mg/kg	0.25	0.0031	1	05/25/16 17:19	05/25/16 20:41	541-73-1	B
1,4-Dichlorobenzene	0.0094J	mg/kg	0.25	0.0040	1	05/25/16 17:19	05/25/16 20:41	106-46-7	B
2-Butanone (MEK)	<0.050	mg/kg	2.5	0.050	1	05/25/16 17:19	05/25/16 20:41	78-93-3	
2-Hexanone	0.028J	mg/kg	2.5	0.019	1	05/25/16 17:19	05/25/16 20:41	591-78-6	B
4-Methyl-2-pentanone (MIBK)	<1.3	mg/kg	2.5	1.3	1	05/25/16 17:19	05/25/16 20:41	108-10-1	
Acetone	<0.17	mg/kg	2.5	0.17	1	05/25/16 17:19	05/25/16 20:41	67-64-1	
Benzene	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	71-43-2	
Bromodichloromethane	<0.0036	mg/kg	0.25	0.0036	1	05/25/16 17:19	05/25/16 20:41	75-27-4	
Bromoform	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	75-25-2	
Bromomethane	<0.010	mg/kg	1.0	0.010	1	05/25/16 17:19	05/25/16 20:41	74-83-9	
Carbon tetrachloride	<0.0049	mg/kg	0.25	0.0049	1	05/25/16 17:19	05/25/16 20:41	56-23-5	
Chlorobenzene	0.0077J	mg/kg	0.25	0.0046	1	05/25/16 17:19	05/25/16 20:41	108-90-7	B
Chloroethane	<0.0053	mg/kg	0.25	0.0053	1	05/25/16 17:19	05/25/16 20:41	75-00-3	
Chloroform	<0.0045	mg/kg	0.25	0.0045	1	05/25/16 17:19	05/25/16 20:41	67-66-3	
Chloromethane	<0.0056	mg/kg	0.25	0.0056	1	05/25/16 17:19	05/25/16 20:41	74-87-3	
Dibromochloromethane	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	124-48-1	
Dichlorodifluoromethane	<0.013	mg/kg	0.25	0.013	1	05/25/16 17:19	05/25/16 20:41	75-71-8	
Ethylbenzene	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	100-41-4	
Hexachloro-1,3-butadiene	<0.0057	mg/kg	0.25	0.0057	1	05/25/16 17:19	05/25/16 20:41	87-68-3	
Methyl-tert-butyl ether	<0.0040	mg/kg	0.25	0.0040	1	05/25/16 17:19	05/25/16 20:41	1634-04-4	
Methylene Chloride	<0.0059	mg/kg	0.25	0.0059	1	05/25/16 17:19	05/25/16 20:41	75-09-2	
Naphthalene	0.014J	mg/kg	0.25	0.011	1	05/25/16 17:19	05/25/16 20:41	91-20-3	B
Styrene	<0.0027	mg/kg	0.25	0.0027	1	05/25/16 17:19	05/25/16 20:41	100-42-5	
Tetrachloroethene	<0.0041	mg/kg	0.25	0.0041	1	05/25/16 17:19	05/25/16 20:41	127-18-4	
Tetrahydrofuran	<0.074	mg/kg	5.1	0.074	1	05/25/16 17:19	05/25/16 20:41	109-99-9	
Toluene	<0.011	mg/kg	0.25	0.011	1	05/25/16 17:19	05/25/16 20:41	108-88-3	
Trichloroethene	<0.0037	mg/kg	0.25	0.0037	1	05/25/16 17:19	05/25/16 20:41	79-01-6	
Trichlorofluoromethane	<0.0048	mg/kg	0.25	0.0048	1	05/25/16 17:19	05/25/16 20:41	75-69-4	
Vinyl chloride	<0.0055	mg/kg	0.25	0.0055	1	05/25/16 17:19	05/25/16 20:41	75-01-4	
cis-1,2-Dichloroethene	<0.0060	mg/kg	0.25	0.0060	1	05/25/16 17:19	05/25/16 20:41	156-59-2	
cis-1,3-Dichloropropene	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	10061-01-5	
m&p-Xylene	<0.13	mg/kg	0.25	0.13	1	05/25/16 17:19	05/25/16 20:41	179601-23-1	
o-Xylene	0.0069J	mg/kg	0.25	0.0039	1	05/25/16 17:19	05/25/16 20:41	95-47-6	B

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: SB06-SS-40SPLIT **Lab ID: 1266743002** Collected: 05/18/16 17:05 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.014	mg/kg	0.25	0.014	1	05/25/16 17:19	05/25/16 20:41	156-60-5	
trans-1,3-Dichloropropene	<0.0043	mg/kg	0.25	0.0043	1	05/25/16 17:19	05/25/16 20:41	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	70-130		1	05/25/16 17:19	05/25/16 20:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 20:41	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1	05/25/16 17:19	05/25/16 20:41	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	25.5	%	0.10	0.10	1		05/25/16 16:04		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: **SB07-SS-20SPLIT** Lab ID: **1266743003** Collected: 05/20/16 10:20 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0065	mg/kg	0.31	0.0065	1	05/25/16 17:19	05/25/16 21:01	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0054	mg/kg	0.31	0.0054	1	05/25/16 17:19	05/25/16 21:01	79-34-5	
1,1,2-Trichloroethane	<0.0070	mg/kg	0.31	0.0070	1	05/25/16 17:19	05/25/16 21:01	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0080	mg/kg	0.31	0.0080	1	05/25/16 17:19	05/25/16 21:01	76-13-1	
1,1-Dichloroethane	<0.0054	mg/kg	0.31	0.0054	1	05/25/16 17:19	05/25/16 21:01	75-34-3	
1,1-Dichloroethene	<0.011	mg/kg	0.31	0.011	1	05/25/16 17:19	05/25/16 21:01	75-35-4	
1,2,4-Trichlorobenzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	120-82-1	
1,2,4-Trimethylbenzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	95-63-6	
1,2-Dibromoethane (EDB)	<0.0063	mg/kg	0.31	0.0063	1	05/25/16 17:19	05/25/16 21:01	106-93-4	
1,2-Dichlorobenzene	<0.0050	mg/kg	0.31	0.0050	1	05/25/16 17:19	05/25/16 21:01	95-50-1	
1,2-Dichloroethane	0.022J	mg/kg	0.31	0.0040	1	05/25/16 17:19	05/25/16 21:01	107-06-2	B
1,3,5-Trimethylbenzene	0.0054J	mg/kg	0.31	0.0021	1	05/25/16 17:19	05/25/16 21:01	108-67-8	B
1,3-Dichlorobenzene	0.0075J	mg/kg	0.31	0.0037	1	05/25/16 17:19	05/25/16 21:01	541-73-1	B
1,4-Dichlorobenzene	0.012J	mg/kg	0.31	0.0048	1	05/25/16 17:19	05/25/16 21:01	106-46-7	B
2-Butanone (MEK)	<0.060	mg/kg	3.1	0.060	1	05/25/16 17:19	05/25/16 21:01	78-93-3	
2-Hexanone	0.030J	mg/kg	3.1	0.023	1	05/25/16 17:19	05/25/16 21:01	591-78-6	B
4-Methyl-2-pentanone (MIBK)	<1.5	mg/kg	3.1	1.5	1	05/25/16 17:19	05/25/16 21:01	108-10-1	
Acetone	<0.21	mg/kg	3.1	0.21	1	05/25/16 17:19	05/25/16 21:01	67-64-1	
Benzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	71-43-2	
Bromodichloromethane	<0.0043	mg/kg	0.31	0.0043	1	05/25/16 17:19	05/25/16 21:01	75-27-4	
Bromoform	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	75-25-2	
Bromomethane	<0.012	mg/kg	1.2	0.012	1	05/25/16 17:19	05/25/16 21:01	74-83-9	
Carbon tetrachloride	<0.0059	mg/kg	0.31	0.0059	1	05/25/16 17:19	05/25/16 21:01	56-23-5	
Chlorobenzene	0.0088J	mg/kg	0.31	0.0055	1	05/25/16 17:19	05/25/16 21:01	108-90-7	B
Chloroethane	<0.0064	mg/kg	0.31	0.0064	1	05/25/16 17:19	05/25/16 21:01	75-00-3	
Chloroform	<0.0054	mg/kg	0.31	0.0054	1	05/25/16 17:19	05/25/16 21:01	67-66-3	
Chloromethane	<0.0067	mg/kg	0.31	0.0067	1	05/25/16 17:19	05/25/16 21:01	74-87-3	
Dibromochloromethane	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	124-48-1	
Dichlorodifluoromethane	<0.016	mg/kg	0.31	0.016	1	05/25/16 17:19	05/25/16 21:01	75-71-8	
Ethylbenzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	100-41-4	
Hexachloro-1,3-butadiene	<0.0069	mg/kg	0.31	0.0069	1	05/25/16 17:19	05/25/16 21:01	87-68-3	
Methyl-tert-butyl ether	<0.0048	mg/kg	0.31	0.0048	1	05/25/16 17:19	05/25/16 21:01	1634-04-4	
Methylene Chloride	<0.0071	mg/kg	0.31	0.0071	1	05/25/16 17:19	05/25/16 21:01	75-09-2	
Naphthalene	<0.013	mg/kg	0.31	0.013	1	05/25/16 17:19	05/25/16 21:01	91-20-3	
Styrene	<0.0033	mg/kg	0.31	0.0033	1	05/25/16 17:19	05/25/16 21:01	100-42-5	
Tetrachloroethene	<0.0049	mg/kg	0.31	0.0049	1	05/25/16 17:19	05/25/16 21:01	127-18-4	
Tetrahydrofuran	0.093J	mg/kg	6.1	0.089	1	05/25/16 17:19	05/25/16 21:01	109-99-9	B
Toluene	<0.013	mg/kg	0.31	0.013	1	05/25/16 17:19	05/25/16 21:01	108-88-3	
Trichloroethene	<0.0044	mg/kg	0.31	0.0044	1	05/25/16 17:19	05/25/16 21:01	79-01-6	
Trichlorofluoromethane	<0.0058	mg/kg	0.31	0.0058	1	05/25/16 17:19	05/25/16 21:01	75-69-4	
Vinyl chloride	<0.0066	mg/kg	0.31	0.0066	1	05/25/16 17:19	05/25/16 21:01	75-01-4	
cis-1,2-Dichloroethene	<0.0072	mg/kg	0.31	0.0072	1	05/25/16 17:19	05/25/16 21:01	156-59-2	
cis-1,3-Dichloropropene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	10061-01-5	
m&p-Xylene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 21:01	179601-23-1	
o-Xylene	0.0067J	mg/kg	0.31	0.0047	1	05/25/16 17:19	05/25/16 21:01	95-47-6	B

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: SB07-SS-20SPLIT **Lab ID: 1266743003** Collected: 05/20/16 10:20 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.017	mg/kg	0.31	0.017	1	05/25/16 17:19	05/25/16 21:01	156-60-5	
trans-1,3-Dichloropropene	<0.0051	mg/kg	0.31	0.0051	1	05/25/16 17:19	05/25/16 21:01	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	70-130		1	05/25/16 17:19	05/25/16 21:01	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1	05/25/16 17:19	05/25/16 21:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1	05/25/16 17:19	05/25/16 21:01	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	32.9	%	0.10	0.10	1		05/25/16 16:07		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: SB07-SS-35SPLIT **Lab ID: 1266743004** Collected: 05/20/16 10:55 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0056	mg/kg	0.26	0.0056	1	05/25/16 17:19	05/25/16 21:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0047	mg/kg	0.26	0.0047	1	05/25/16 17:19	05/25/16 21:21	79-34-5	
1,1,2-Trichloroethane	<0.0060	mg/kg	0.26	0.0060	1	05/25/16 17:19	05/25/16 21:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0069	mg/kg	0.26	0.0069	1	05/25/16 17:19	05/25/16 21:21	76-13-1	
1,1-Dichloroethane	<0.0047	mg/kg	0.26	0.0047	1	05/25/16 17:19	05/25/16 21:21	75-34-3	
1,1-Dichloroethene	<0.0094	mg/kg	0.26	0.0094	1	05/25/16 17:19	05/25/16 21:21	75-35-4	
1,2,4-Trichlorobenzene	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	120-82-1	
1,2,4-Trimethylbenzene	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	95-63-6	
1,2-Dibromoethane (EDB)	<0.0054	mg/kg	0.26	0.0054	1	05/25/16 17:19	05/25/16 21:21	106-93-4	
1,2-Dichlorobenzene	<0.0043	mg/kg	0.26	0.0043	1	05/25/16 17:19	05/25/16 21:21	95-50-1	
1,2-Dichloroethane	<0.0035	mg/kg	0.26	0.0035	1	05/25/16 17:19	05/25/16 21:21	107-06-2	
1,3,5-Trimethylbenzene	<0.0018	mg/kg	0.26	0.0018	1	05/25/16 17:19	05/25/16 21:21	108-67-8	
1,3-Dichlorobenzene	<0.0032	mg/kg	0.26	0.0032	1	05/25/16 17:19	05/25/16 21:21	541-73-1	
1,4-Dichlorobenzene	<0.0041	mg/kg	0.26	0.0041	1	05/25/16 17:19	05/25/16 21:21	106-46-7	
2-Butanone (MEK)	<0.052	mg/kg	2.6	0.052	1	05/25/16 17:19	05/25/16 21:21	78-93-3	
2-Hexanone	<0.020	mg/kg	2.6	0.020	1	05/25/16 17:19	05/25/16 21:21	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.3	mg/kg	2.6	1.3	1	05/25/16 17:19	05/25/16 21:21	108-10-1	
Acetone	<0.18	mg/kg	2.6	0.18	1	05/25/16 17:19	05/25/16 21:21	67-64-1	
Benzene	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	71-43-2	
Bromodichloromethane	<0.0037	mg/kg	0.26	0.0037	1	05/25/16 17:19	05/25/16 21:21	75-27-4	
Bromoform	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	75-25-2	
Bromomethane	<0.011	mg/kg	1.1	0.011	1	05/25/16 17:19	05/25/16 21:21	74-83-9	
Carbon tetrachloride	<0.0051	mg/kg	0.26	0.0051	1	05/25/16 17:19	05/25/16 21:21	56-23-5	
Chlorobenzene	<0.0048	mg/kg	0.26	0.0048	1	05/25/16 17:19	05/25/16 21:21	108-90-7	
Chloroethane	<0.0055	mg/kg	0.26	0.0055	1	05/25/16 17:19	05/25/16 21:21	75-00-3	
Chloroform	<0.0047	mg/kg	0.26	0.0047	1	05/25/16 17:19	05/25/16 21:21	67-66-3	
Chloromethane	<0.0058	mg/kg	0.26	0.0058	1	05/25/16 17:19	05/25/16 21:21	74-87-3	
Dibromochloromethane	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	124-48-1	
Dichlorodifluoromethane	<0.014	mg/kg	0.26	0.014	1	05/25/16 17:19	05/25/16 21:21	75-71-8	
Ethylbenzene	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	100-41-4	
Hexachloro-1,3-butadiene	<0.0059	mg/kg	0.26	0.0059	1	05/25/16 17:19	05/25/16 21:21	87-68-3	
Methyl-tert-butyl ether	<0.0041	mg/kg	0.26	0.0041	1	05/25/16 17:19	05/25/16 21:21	1634-04-4	
Methylene Chloride	<0.0061	mg/kg	0.26	0.0061	1	05/25/16 17:19	05/25/16 21:21	75-09-2	
Naphthalene	<0.012	mg/kg	0.26	0.012	1	05/25/16 17:19	05/25/16 21:21	91-20-3	
Styrene	<0.0029	mg/kg	0.26	0.0029	1	05/25/16 17:19	05/25/16 21:21	100-42-5	
Tetrachloroethene	<0.0042	mg/kg	0.26	0.0042	1	05/25/16 17:19	05/25/16 21:21	127-18-4	
Tetrahydrofuran	<0.077	mg/kg	5.3	0.077	1	05/25/16 17:19	05/25/16 21:21	109-99-9	
Toluene	<0.012	mg/kg	0.26	0.012	1	05/25/16 17:19	05/25/16 21:21	108-88-3	
Trichloroethene	<0.0038	mg/kg	0.26	0.0038	1	05/25/16 17:19	05/25/16 21:21	79-01-6	
Trichlorofluoromethane	<0.0050	mg/kg	0.26	0.0050	1	05/25/16 17:19	05/25/16 21:21	75-69-4	
Vinyl chloride	<0.0057	mg/kg	0.26	0.0057	1	05/25/16 17:19	05/25/16 21:21	75-01-4	
cis-1,2-Dichloroethene	<0.0062	mg/kg	0.26	0.0062	1	05/25/16 17:19	05/25/16 21:21	156-59-2	
cis-1,3-Dichloropropene	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	10061-01-5	
m&p-Xylene	<0.13	mg/kg	0.26	0.13	1	05/25/16 17:19	05/25/16 21:21	179601-23-1	
o-Xylene	<0.0040	mg/kg	0.26	0.0040	1	05/25/16 17:19	05/25/16 21:21	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: SB07-SS-35SPLIT **Lab ID: 1266743004** Collected: 05/20/16 10:55 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.015	mg/kg	0.26	0.015	1	05/25/16 17:19	05/25/16 21:21	156-60-5	
trans-1,3-Dichloropropene	<0.0044	mg/kg	0.26	0.0044	1	05/25/16 17:19	05/25/16 21:21	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	70-130		1	05/25/16 17:19	05/25/16 21:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 21:21	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 21:21	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	28.0	%	0.10	0.10	1		05/25/16 16:08		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: MW5-SS-15SPLIT Lab ID: 1266743005 Collected: 05/20/16 16:35 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0061	mg/kg	0.29	0.0061	1	05/25/16 17:19	05/25/16 21:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0051	mg/kg	0.29	0.0051	1	05/25/16 17:19	05/25/16 21:41	79-34-5	
1,1,2-Trichloroethane	<0.0066	mg/kg	0.29	0.0066	1	05/25/16 17:19	05/25/16 21:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0075	mg/kg	0.29	0.0075	1	05/25/16 17:19	05/25/16 21:41	76-13-1	
1,1-Dichloroethane	<0.0051	mg/kg	0.29	0.0051	1	05/25/16 17:19	05/25/16 21:41	75-34-3	
1,1-Dichloroethene	<0.010	mg/kg	0.29	0.010	1	05/25/16 17:19	05/25/16 21:41	75-35-4	
1,2,4-Trichlorobenzene	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	120-82-1	
1,2,4-Trimethylbenzene	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	95-63-6	
1,2-Dibromoethane (EDB)	<0.0059	mg/kg	0.29	0.0059	1	05/25/16 17:19	05/25/16 21:41	106-93-4	
1,2-Dichlorobenzene	<0.0048	mg/kg	0.29	0.0048	1	05/25/16 17:19	05/25/16 21:41	95-50-1	
1,2-Dichloroethane	<0.0038	mg/kg	0.29	0.0038	1	05/25/16 17:19	05/25/16 21:41	107-06-2	
1,3,5-Trimethylbenzene	<0.0020	mg/kg	0.29	0.0020	1	05/25/16 17:19	05/25/16 21:41	108-67-8	
1,3-Dichlorobenzene	<0.0035	mg/kg	0.29	0.0035	1	05/25/16 17:19	05/25/16 21:41	541-73-1	
1,4-Dichlorobenzene	<0.0045	mg/kg	0.29	0.0045	1	05/25/16 17:19	05/25/16 21:41	106-46-7	
2-Butanone (MEK)	<0.057	mg/kg	2.9	0.057	1	05/25/16 17:19	05/25/16 21:41	78-93-3	
2-Hexanone	<0.022	mg/kg	2.9	0.022	1	05/25/16 17:19	05/25/16 21:41	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.4	mg/kg	2.9	1.4	1	05/25/16 17:19	05/25/16 21:41	108-10-1	
Acetone	<0.20	mg/kg	2.9	0.20	1	05/25/16 17:19	05/25/16 21:41	67-64-1	
Benzene	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	71-43-2	
Bromodichloromethane	<0.0041	mg/kg	0.29	0.0041	1	05/25/16 17:19	05/25/16 21:41	75-27-4	
Bromoform	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	75-25-2	
Bromomethane	<0.012	mg/kg	1.2	0.012	1	05/25/16 17:19	05/25/16 21:41	74-83-9	
Carbon tetrachloride	<0.0056	mg/kg	0.29	0.0056	1	05/25/16 17:19	05/25/16 21:41	56-23-5	
Chlorobenzene	<0.0052	mg/kg	0.29	0.0052	1	05/25/16 17:19	05/25/16 21:41	108-90-7	
Chloroethane	<0.0060	mg/kg	0.29	0.0060	1	05/25/16 17:19	05/25/16 21:41	75-00-3	
Chloroform	<0.0051	mg/kg	0.29	0.0051	1	05/25/16 17:19	05/25/16 21:41	67-66-3	
Chloromethane	<0.0064	mg/kg	0.29	0.0064	1	05/25/16 17:19	05/25/16 21:41	74-87-3	
Dibromochloromethane	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	124-48-1	
Dichlorodifluoromethane	<0.015	mg/kg	0.29	0.015	1	05/25/16 17:19	05/25/16 21:41	75-71-8	
Ethylbenzene	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	100-41-4	
Hexachloro-1,3-butadiene	<0.0065	mg/kg	0.29	0.0065	1	05/25/16 17:19	05/25/16 21:41	87-68-3	
Methyl-tert-butyl ether	<0.0045	mg/kg	0.29	0.0045	1	05/25/16 17:19	05/25/16 21:41	1634-04-4	
Methylene Chloride	<0.0067	mg/kg	0.29	0.0067	1	05/25/16 17:19	05/25/16 21:41	75-09-2	
Naphthalene	<0.013	mg/kg	0.29	0.013	1	05/25/16 17:19	05/25/16 21:41	91-20-3	
Styrene	<0.0031	mg/kg	0.29	0.0031	1	05/25/16 17:19	05/25/16 21:41	100-42-5	
Tetrachloroethene	<0.0046	mg/kg	0.29	0.0046	1	05/25/16 17:19	05/25/16 21:41	127-18-4	
Tetrahydrofuran	<0.085	mg/kg	5.8	0.085	1	05/25/16 17:19	05/25/16 21:41	109-99-9	
Toluene	<0.013	mg/kg	0.29	0.013	1	05/25/16 17:19	05/25/16 21:41	108-88-3	
Trichloroethene	<0.0042	mg/kg	0.29	0.0042	1	05/25/16 17:19	05/25/16 21:41	79-01-6	
Trichlorofluoromethane	<0.0054	mg/kg	0.29	0.0054	1	05/25/16 17:19	05/25/16 21:41	75-69-4	
Vinyl chloride	<0.0063	mg/kg	0.29	0.0063	1	05/25/16 17:19	05/25/16 21:41	75-01-4	
cis-1,2-Dichloroethene	<0.0068	mg/kg	0.29	0.0068	1	05/25/16 17:19	05/25/16 21:41	156-59-2	
cis-1,3-Dichloropropene	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	10061-01-5	
m&p-Xylene	<0.14	mg/kg	0.29	0.14	1	05/25/16 17:19	05/25/16 21:41	179601-23-1	
o-Xylene	<0.0044	mg/kg	0.29	0.0044	1	05/25/16 17:19	05/25/16 21:41	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: MW5-SS-15SPLIT Lab ID: 1266743005 Collected: 05/20/16 16:35 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.016	mg/kg	0.29	0.016	1	05/25/16 17:19	05/25/16 21:41	156-60-5	
trans-1,3-Dichloropropene	<0.0049	mg/kg	0.29	0.0049	1	05/25/16 17:19	05/25/16 21:41	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	70-130		1	05/25/16 17:19	05/25/16 21:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 21:41	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1	05/25/16 17:19	05/25/16 21:41	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	20.1	%	0.10	0.10	1		05/25/16 16:13		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman
Pace Project No.: 1266743

Sample: MW5-SS-20SPLIT Lab ID: 1266743006 Collected: 05/20/16 16:45 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0046	mg/kg	0.22	0.0046	1	05/25/16 17:19	05/25/16 22:01	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0039	mg/kg	0.22	0.0039	1	05/25/16 17:19	05/25/16 22:01	79-34-5	
1,1,2-Trichloroethane	<0.0050	mg/kg	0.22	0.0050	1	05/25/16 17:19	05/25/16 22:01	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0057	mg/kg	0.22	0.0057	1	05/25/16 17:19	05/25/16 22:01	76-13-1	
1,1-Dichloroethane	<0.0039	mg/kg	0.22	0.0039	1	05/25/16 17:19	05/25/16 22:01	75-34-3	
1,1-Dichloroethene	<0.0078	mg/kg	0.22	0.0078	1	05/25/16 17:19	05/25/16 22:01	75-35-4	
1,2,4-Trichlorobenzene	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	120-82-1	
1,2,4-Trimethylbenzene	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	95-63-6	
1,2-Dibromoethane (EDB)	<0.0045	mg/kg	0.22	0.0045	1	05/25/16 17:19	05/25/16 22:01	106-93-4	
1,2-Dichlorobenzene	<0.0036	mg/kg	0.22	0.0036	1	05/25/16 17:19	05/25/16 22:01	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.22	0.0029	1	05/25/16 17:19	05/25/16 22:01	107-06-2	
1,3,5-Trimethylbenzene	<0.0015	mg/kg	0.22	0.0015	1	05/25/16 17:19	05/25/16 22:01	108-67-8	
1,3-Dichlorobenzene	<0.0026	mg/kg	0.22	0.0026	1	05/25/16 17:19	05/25/16 22:01	541-73-1	
1,4-Dichlorobenzene	<0.0034	mg/kg	0.22	0.0034	1	05/25/16 17:19	05/25/16 22:01	106-46-7	
2-Butanone (MEK)	<0.043	mg/kg	2.2	0.043	1	05/25/16 17:19	05/25/16 22:01	78-93-3	
2-Hexanone	<0.017	mg/kg	2.2	0.017	1	05/25/16 17:19	05/25/16 22:01	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.1	mg/kg	2.2	1.1	1	05/25/16 17:19	05/25/16 22:01	108-10-1	
Acetone	<0.15	mg/kg	2.2	0.15	1	05/25/16 17:19	05/25/16 22:01	67-64-1	
Benzene	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	71-43-2	
Bromodichloromethane	<0.0031	mg/kg	0.22	0.0031	1	05/25/16 17:19	05/25/16 22:01	75-27-4	
Bromoform	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	75-25-2	
Bromomethane	<0.0088	mg/kg	0.88	0.0088	1	05/25/16 17:19	05/25/16 22:01	74-83-9	
Carbon tetrachloride	<0.0042	mg/kg	0.22	0.0042	1	05/25/16 17:19	05/25/16 22:01	56-23-5	
Chlorobenzene	<0.0039	mg/kg	0.22	0.0039	1	05/25/16 17:19	05/25/16 22:01	108-90-7	
Chloroethane	<0.0046	mg/kg	0.22	0.0046	1	05/25/16 17:19	05/25/16 22:01	75-00-3	
Chloroform	<0.0039	mg/kg	0.22	0.0039	1	05/25/16 17:19	05/25/16 22:01	67-66-3	
Chloromethane	<0.0048	mg/kg	0.22	0.0048	1	05/25/16 17:19	05/25/16 22:01	74-87-3	
Dibromochloromethane	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	124-48-1	
Dichlorodifluoromethane	<0.011	mg/kg	0.22	0.011	1	05/25/16 17:19	05/25/16 22:01	75-71-8	
Ethylbenzene	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	100-41-4	
Hexachloro-1,3-butadiene	<0.0049	mg/kg	0.22	0.0049	1	05/25/16 17:19	05/25/16 22:01	87-68-3	
Methyl-tert-butyl ether	<0.0034	mg/kg	0.22	0.0034	1	05/25/16 17:19	05/25/16 22:01	1634-04-4	
Methylene Chloride	<0.0051	mg/kg	0.22	0.0051	1	05/25/16 17:19	05/25/16 22:01	75-09-2	
Naphthalene	<0.0096	mg/kg	0.22	0.0096	1	05/25/16 17:19	05/25/16 22:01	91-20-3	
Styrene	<0.0024	mg/kg	0.22	0.0024	1	05/25/16 17:19	05/25/16 22:01	100-42-5	
Tetrachloroethene	<0.0035	mg/kg	0.22	0.0035	1	05/25/16 17:19	05/25/16 22:01	127-18-4	
Tetrahydrofuran	<0.064	mg/kg	4.4	0.064	1	05/25/16 17:19	05/25/16 22:01	109-99-9	
Toluene	<0.0096	mg/kg	0.22	0.0096	1	05/25/16 17:19	05/25/16 22:01	108-88-3	
Trichloroethene	<0.0032	mg/kg	0.22	0.0032	1	05/25/16 17:19	05/25/16 22:01	79-01-6	
Trichlorofluoromethane	<0.0041	mg/kg	0.22	0.0041	1	05/25/16 17:19	05/25/16 22:01	75-69-4	
Vinyl chloride	<0.0047	mg/kg	0.22	0.0047	1	05/25/16 17:19	05/25/16 22:01	75-01-4	
cis-1,2-Dichloroethene	<0.0052	mg/kg	0.22	0.0052	1	05/25/16 17:19	05/25/16 22:01	156-59-2	
cis-1,3-Dichloropropene	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	10061-01-5	
m&p-Xylene	<0.11	mg/kg	0.22	0.11	1	05/25/16 17:19	05/25/16 22:01	179601-23-1	
o-Xylene	<0.0033	mg/kg	0.22	0.0033	1	05/25/16 17:19	05/25/16 22:01	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1266743

Sample: MW5-SS-20SPLIT **Lab ID: 1266743006** Collected: 05/20/16 16:45 Received: 05/24/16 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.012	mg/kg	0.22	0.012	1	05/25/16 17:19	05/25/16 22:01	156-60-5	
trans-1,3-Dichloropropene	<0.0037	mg/kg	0.22	0.0037	1	05/25/16 17:19	05/25/16 22:01	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	70-130		1	05/25/16 17:19	05/25/16 22:01	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1	05/25/16 17:19	05/25/16 22:01	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1	05/25/16 17:19	05/25/16 22:01	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	18.2	%	0.10	0.10	1		05/25/16 16:15		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1266743

QC Batch: DAVM/3833 Analysis Method: EPA 8260B
 QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Soil
 Associated Lab Samples: 1266743001, 1266743002, 1266743003, 1266743004, 1266743005, 1266743006

METHOD BLANK: 322066 Matrix: Solid
 Associated Lab Samples: 1266743001, 1266743002, 1266743003, 1266743004, 1266743005, 1266743006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.014J	0.25	0.0052	05/25/16 18:33	
1,1,2,2-Tetrachloroethane	mg/kg	0.033J	0.25	0.0044	05/25/16 18:33	
1,1,2-Trichloroethane	mg/kg	0.039J	0.25	0.0056	05/25/16 18:33	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.0064	0.25	0.0064	05/25/16 18:33	
1,1-Dichloroethane	mg/kg	0.031J	0.25	0.0044	05/25/16 18:33	
1,1-Dichloroethene	mg/kg	0.015J	0.25	0.0088	05/25/16 18:33	
1,2,4-Trichlorobenzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
1,2,4-Trimethylbenzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
1,2-Dibromoethane (EDB)	mg/kg	0.035J	0.25	0.0050	05/25/16 18:33	
1,2-Dichlorobenzene	mg/kg	0.040J	0.25	0.0041	05/25/16 18:33	
1,2-Dichloroethane	mg/kg	0.056J	0.25	0.0033	05/25/16 18:33	
1,3,5-Trimethylbenzene	mg/kg	0.034J	0.25	0.0017	05/25/16 18:33	
1,3-Dichlorobenzene	mg/kg	0.039J	0.25	0.0030	05/25/16 18:33	
1,4-Dichlorobenzene	mg/kg	0.041J	0.25	0.0039	05/25/16 18:33	
2-Butanone (MEK)	mg/kg	0.18J	2.5	0.049	05/25/16 18:33	
2-Hexanone	mg/kg	0.15J	2.5	0.019	05/25/16 18:33	
4-Methyl-2-pentanone (MIBK)	mg/kg	<1.2	2.5	1.2	05/25/16 18:33	
Acetone	mg/kg	<0.17	2.5	0.17	05/25/16 18:33	
Benzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Bromodichloromethane	mg/kg	0.029J	0.25	0.0035	05/25/16 18:33	
Bromoform	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Bromomethane	mg/kg	<0.0099	0.99	0.0099	05/25/16 18:33	
Carbon tetrachloride	mg/kg	0.025J	0.25	0.0048	05/25/16 18:33	
Chlorobenzene	mg/kg	0.038J	0.25	0.0045	05/25/16 18:33	
Chloroethane	mg/kg	<0.0051	0.25	0.0051	05/25/16 18:33	
Chloroform	mg/kg	0.033J	0.25	0.0044	05/25/16 18:33	
Chloromethane	mg/kg	0.0077J	0.25	0.0054	05/25/16 18:33	
cis-1,2-Dichloroethene	mg/kg	0.022J	0.25	0.0058	05/25/16 18:33	
cis-1,3-Dichloropropene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Dibromochloromethane	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Dichlorodifluoromethane	mg/kg	<0.013	0.25	0.013	05/25/16 18:33	
Ethylbenzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Hexachloro-1,3-butadiene	mg/kg	0.035J	0.25	0.0055	05/25/16 18:33	
m&p-Xylene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Methyl-tert-butyl ether	mg/kg	0.0090J	0.25	0.0039	05/25/16 18:33	
Methylene Chloride	mg/kg	<0.0057	0.25	0.0057	05/25/16 18:33	
Naphthalene	mg/kg	0.043J	0.25	0.011	05/25/16 18:33	
o-Xylene	mg/kg	0.038J	0.25	0.0038	05/25/16 18:33	
Styrene	mg/kg	0.040J	0.25	0.0027	05/25/16 18:33	
Tetrachloroethene	mg/kg	0.036J	0.25	0.0040	05/25/16 18:33	
Tetrahydrofuran	mg/kg	0.34J	5.0	0.072	05/25/16 18:33	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1266743

METHOD BLANK: 322066

Matrix: Solid

Associated Lab Samples: 1266743001, 1266743002, 1266743003, 1266743004, 1266743005, 1266743006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	0.036J	0.25	0.011	05/25/16 18:33	
trans-1,2-Dichloroethene	mg/kg	0.029J	0.25	0.014	05/25/16 18:33	
trans-1,3-Dichloropropene	mg/kg	0.028J	0.25	0.0042	05/25/16 18:33	
Trichloroethene	mg/kg	0.035J	0.25	0.0036	05/25/16 18:33	
Trichlorofluoromethane	mg/kg	0.014J	0.25	0.0047	05/25/16 18:33	
Vinyl chloride	mg/kg	0.040J	0.25	0.0053	05/25/16 18:33	
1,2-Dichloroethane-d4 (S)	%	96	70-130		05/25/16 18:33	
4-Bromofluorobenzene (S)	%	98	70-130		05/25/16 18:33	
Toluene-d8 (S)	%	100	70-130		05/25/16 18:33	

LABORATORY CONTROL SAMPLE: 322067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	2	1.9	97	75-126	
1,1,2,2-Tetrachloroethane	mg/kg	2	2.1	104	58-140	
1,1,2-Trichloroethane	mg/kg	2	2.0	102	57-136	
1,1,2-Trichlorotrifluoroethane	mg/kg	2	2.1	103	70-130	
1,1-Dichloroethane	mg/kg	2	2.0	100	75-125	
1,1-Dichloroethene	mg/kg	2	1.9	96	74-125	
1,2,4-Trichlorobenzene	mg/kg	2	2.1	107	75-139	
1,2,4-Trimethylbenzene	mg/kg	2	2.1	106	75-128	
1,2-Dibromoethane (EDB)	mg/kg	2	2.0	100	60-138	
1,2-Dichlorobenzene	mg/kg	2	2.0	99	75-125	
1,2-Dichloroethane	mg/kg	2	1.8	93	75-125	
1,3,5-Trimethylbenzene	mg/kg	2	2.1	104	75-125	
1,3-Dichlorobenzene	mg/kg	2	2.0	99	75-125	
1,4-Dichlorobenzene	mg/kg	2	1.9	95	75-125	
2-Butanone (MEK)	mg/kg	10	9.7	97	70-130	
2-Hexanone	mg/kg	10	9.7	98	70-130	
4-Methyl-2-pentanone (MIBK)	mg/kg	10	9.8	98	70-130	
Acetone	mg/kg	10	9.0	90	70-130	
Benzene	mg/kg	2	2.0	99	75-125	
Bromodichloromethane	mg/kg	2	1.9	97	75-125	
Bromoform	mg/kg	2	2.0	98	61-125	
Bromomethane	mg/kg	2	1.7	88	30-125	
Carbon tetrachloride	mg/kg	2	1.9	97	72-136	
Chlorobenzene	mg/kg	2	2.0	100	75-125	
Chloroethane	mg/kg	2	2.0	101	30-134	
Chloroform	mg/kg	2	1.9	97	75-125	
Chloromethane	mg/kg	2	2.2	110	54-128	
cis-1,2-Dichloroethene	mg/kg	2	2.0	102	75-125	
cis-1,3-Dichloropropene	mg/kg	2	2.1	108	75-132	
Dibromochloromethane	mg/kg	2	2.0	99	47-139	
Dichlorodifluoromethane	mg/kg	2	1.7	83	47-125	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1266743

LABORATORY CONTROL SAMPLE: 322067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	mg/kg	2	2.0	102	75-128	
Hexachloro-1,3-butadiene	mg/kg	2	2.1	105	75-131	
m&p-Xylene	mg/kg	4	4.2	105	75-131	
Methyl-tert-butyl ether	mg/kg	2	2.0	101	75-125	
Methylene Chloride	mg/kg	2	2.0	98	70-133	
Naphthalene	mg/kg	2	2.1	104	75-126	
o-Xylene	mg/kg	2	2.0	102	75-127	
Styrene	mg/kg	2	2.1	104	75-130	
Tetrachloroethene	mg/kg	2	2.0	101	75-125	
Tetrahydrofuran	mg/kg	20	19.4	97	70-130	
Toluene	mg/kg	2	2.1	103	75-125	
trans-1,2-Dichloroethene	mg/kg	2	1.9	95	75-125	
trans-1,3-Dichloropropene	mg/kg	2	2.0	100	60-140	
Trichloroethene	mg/kg	2	2.0	99	75-125	
Trichlorofluoromethane	mg/kg	2	1.9	97	30-135	
Vinyl chloride	mg/kg	2	2.0	98	65-134	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 322078 322079

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		1266743001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	mg/kg	0.015J	2.1	2.4	1.7	1.8	79	75	75-125	4	25	
1,1,2,2-Tetrachloroethane	mg/kg	0.025J	2.1	2.4	2.1	2.3	97	95	62-142	8	25	
1,1,2-Trichloroethane	mg/kg	0.027J	2.1	2.4	2.0	2.1	91	87	60-150	6	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.0077	2.1	2.4	1.4	1.4	67	57	70-130	6	25	M1
1,1-Dichloroethane	mg/kg	<0.0052	2.1	2.4	1.8	1.9	84	79	75-125	5	25	
1,1-Dichloroethene	mg/kg	<0.010	2.1	2.4	1.5	1.4	71	58	75-125	9	25	M1
1,2,4-Trichlorobenzene	mg/kg	<0.15	2.1	2.4	2.0	2.2	92	92	75-137	9	25	
1,2,4-Trimethylbenzene	mg/kg	<0.15	2.1	2.4	2.0	2.2	91	89	59-138	8	25	
1,2-Dibromoethane (EDB)	mg/kg	0.021J	2.1	2.4	2.0	2.1	90	87	75-125	6	25	
1,2-Dichlorobenzene	mg/kg	0.024J	2.1	2.4	1.9	2.0	86	84	75-125	8	25	
1,2-Dichloroethane	mg/kg	0.036J	2.1	2.4	1.7	1.8	79	75	75-125	5	25	
1,3,5-Trimethylbenzene	mg/kg	0.020J	2.1	2.4	1.9	2.1	88	86	71-133	8	25	
1,3-Dichlorobenzene	mg/kg	0.022J	2.1	2.4	1.9	2.0	87	84	75-125	7	25	
1,4-Dichlorobenzene	mg/kg	0.027J	2.1	2.4	1.8	2.0	82	82	75-125	10	25	
2-Butanone (MEK)	mg/kg	<0.058	10.8	12	10.9	11.9	101	99	70-130	9	25	
2-Hexanone	mg/kg	0.12J	10.8	12	11.0	11.6	100	96	70-130	6	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	<1.5	10.8	12	10.8	11.4	98	94	70-130	6	25	
Acetone	mg/kg	<0.20	10.8	12	9.9	10.2	92	85	70-130	3	25	
Benzene	mg/kg	<0.15	2.1	2.4	1.8	1.9	82	77	75-125	4	25	
Bromodichloromethane	mg/kg	<0.0041	2.1	2.4	1.9	2.0	86	82	75-125	5	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1266743

Parameter	Units	1266743001		322078		322079		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Bromoform	mg/kg	<0.15	2.1	2.4	1.9	2.1	88	87	61-133	9	25		
Bromomethane	mg/kg	<0.012	2.1	2.4	1.7	1.6	79	66	30-145	8	25		
Carbon tetrachloride	mg/kg	<0.0057	2.1	2.4	1.7	1.8	80	76	75-125	5	25		
Chlorobenzene	mg/kg	0.026J	2.1	2.4	1.9	2.0	85	83	75-125	8	25		
Chloroethane	mg/kg	<0.0061	2.1	2.4	1.6	1.6	74	67	30-138	0	25		
Chloroform	mg/kg	0.016J	2.1	2.4	1.8	1.9	81	78	75-125	6	25		
Chloromethane	mg/kg	<0.0065	2.1	2.4	1.6	1.4	75	60	65-126	13	25	M1	
cis-1,2-Dichloroethene	mg/kg	0.019J	2.1	2.4	1.9	2.0	87	81	75-125	3	25		
cis-1,3-Dichloropropene	mg/kg	<0.15	2.1	2.4	2.0	2.2	94	92	75-125	8	25		
Dibromochloromethane	mg/kg	<0.15	2.1	2.4	1.9	2.1	86	85	64-133	9	25		
Dichlorodifluoromethane	mg/kg	<0.015	2.1	2.4	0.53	0.49	25	20	52-125	9	25	M1	
Ethylbenzene	mg/kg	<0.15	2.1	2.4	1.9	2.1	86	86	71-135	10	25		
Hexachloro-1,3-butadiene	mg/kg	0.025J	2.1	2.4	2.0	2.2	89	90	75-127	11	25		
m&p-Xylene	mg/kg	<0.15	4.3	4.9	3.9	4.3	89	88	63-138	8	25		
Methyl-tert-butyl ether	mg/kg	<0.0046	2.1	2.4	2.0	2.1	91	86	75-125	4	25		
Methylene Chloride	mg/kg	<0.0068	2.1	2.4	1.7	1.9	77	79	75-130	14	25		
Naphthalene	mg/kg	0.030J	2.1	2.4	2.2	2.3	99	96	56-150	8	25		
o-Xylene	mg/kg	0.021J	2.1	2.4	1.9	2.1	87	86	75-126	9	25		
Styrene	mg/kg	0.021J	2.1	2.4	2.0	2.1	89	88	75-134	9	25		
Tetrachloroethene	mg/kg	<0.0047	2.1	2.4	1.9	1.9	86	81	75-125	4	25		
Tetrahydrofuran	mg/kg	0.25J	21.7	24	21.9	23.4	100	97	70-130	7	25		
Toluene	mg/kg	0.024J	2.1	2.4	1.9	2.0	85	84	75-125	9	25		
trans-1,2-Dichloroethene	mg/kg	<0.017	2.1	2.4	1.7	1.8	81	73	75-125	1	25	M1	
trans-1,3-Dichloropropene	mg/kg	0.016J	2.1	2.4	1.9	2.0	87	85	74-135	8	25		
Trichloroethene	mg/kg	0.021J	2.1	2.4	1.8	2.0	84	81	75-125	6	25		
Trichlorofluoromethane	mg/kg	<0.0055	2.1	2.4	1.1	1.3	53	55	30-126	13	25		
Vinyl chloride	mg/kg	<0.0064	2.1	2.4	1.4	1.3	66	55	75-130	9	25	M1	
1,2-Dichloroethane-d4 (S)	%						95	93	70-130				
4-Bromofluorobenzene (S)	%						99	102	70-130				
Toluene-d8 (S)	%						101	99	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR_Freeman
Pace Project No.: 1266743

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR_Freeman
Pace Project No.: 1266743

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1266743001	SB06-SS-35SPLIT	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266743002	SB06-SS-40SPLIT	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266743003	SB07-SS-20SPLIT	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266743004	SB07-SS-35SPLIT	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266743005	MW5-SS-15SPLIT	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266743006	MW5-SS-20SPLIT	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266743001	SB06-SS-35SPLIT	% Moisture	DAWT/2095		
1266743002	SB06-SS-40SPLIT	% Moisture	DAWT/2095		
1266743003	SB07-SS-20SPLIT	% Moisture	DAWT/2095		
1266743004	SB07-SS-35SPLIT	% Moisture	DAWT/2095		
1266743005	MW5-SS-15SPLIT	% Moisture	DAWT/2095		
1266743006	MW5-SS-20SPLIT	% Moisture	DAWT/2095		

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Document Name:
Sample Condition Upon Receipt Form
 Document No.:
F-DAV-C-002-rev.02

Document Revised: 25Feb2015
 Page 1 of 1
 Issuing Authority:
 Pace Davis, CA Quality Office

Sample Condition
 Upon Receipt

Client Name: CH2M Hill / UPRR

Project #:

WO# : 1266743

1266743

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other: _____
 Tracking Number: 8059 2173 1038

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermom. Used: DA1434 DA2285 Type of Ice: Wet Blue Dry Ice None Samples on ice, cooling process has begun

Cooler Temp Read(°C): 3.8 Cooler Temp Corrected(°C): 4.2 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: +0.4 Date and Initials of Person Examining Contents: 052416 TJB

			Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

JENNI GROSS

Date: 05/24/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

May 27, 2016

Mark Ochsner
CH2M Hill
2020 SW 4th Avenue
Portland, OR 97201

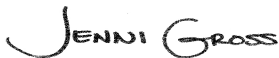
RE: Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

Dear Mark Ochsner:

Enclosed are the analytical results for sample(s) received by the laboratory on May 25, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002

Washington Certification #: C926-15a
California Certification #: 08263CA

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1266839001	SB08-SS-20split	Solid	05/23/16 10:45	05/25/16 09:40
1266839002	SB08-SS-30split	Solid	05/23/16 11:10	05/25/16 09:40
1266839003	SB10-SS-15split	Solid	05/24/16 08:35	05/25/16 09:40
1266839004	SB10-SS-25split	Solid	05/24/16 09:05	05/25/16 09:40

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SAMPLE ANALYTE COUNT

Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1266839001	SB08-SS-20split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266839002	SB08-SS-30split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266839003	SB10-SS-15split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV
1266839004	SB10-SS-25split	EPA 8260B	JCP	50	PASI-DAV
		% Moisture	JLL	1	PASI-DAV

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1266839001	SB08-SS-20split					
% Moisture	Percent Moisture	40.3	%	0.10	05/25/16 16:42	
1266839002	SB08-SS-30split					
% Moisture	Percent Moisture	33.1	%	0.10	05/25/16 16:44	
1266839003	SB10-SS-15split					
% Moisture	Percent Moisture	29.5	%	0.10	05/25/16 16:47	
1266839004	SB10-SS-25split					
% Moisture	Percent Moisture	33.3	%	0.10	05/25/16 16:49	

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PROJECT NARRATIVE

Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

Method: EPA 8260B
Description: 8260 MSV Med Soil
Client: UPRR_CH2M Hill
Date: May 27, 2016

General Information:

4 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: DAVM/3833

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1266743001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 322078)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,1-Dichloroethene
 - Dichlorodifluoromethane
 - Vinyl chloride
- MSD (Lab ID: 322079)
 - 1,1,2-Trichlorotrifluoroethane
 - 1,1-Dichloroethene
 - Chloromethane
 - Dichlorodifluoromethane

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Method: EPA 8260B

Description: 8260 MSV Med Soil

Client: UPRR_CH2M Hill

Date: May 27, 2016

QC Batch: DAVM/3833

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1266743001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Vinyl chloride
- trans-1,2-Dichloroethene

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

Method: % Moisture
Description: Dry Weight, Davis
Client: UPRR_CH2M Hill
Date: May 27, 2016

General Information:

4 samples were analyzed for % Moisture. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: **SB08-SS-20split** Lab ID: **1266839001** Collected: 05/23/16 10:45 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0073	mg/kg	0.34	0.0073	1	05/25/16 17:19	05/25/16 22:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0061	mg/kg	0.34	0.0061	1	05/25/16 17:19	05/25/16 22:21	79-34-5	
1,1,2-Trichloroethane	<0.0079	mg/kg	0.34	0.0079	1	05/25/16 17:19	05/25/16 22:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0090	mg/kg	0.34	0.0090	1	05/25/16 17:19	05/25/16 22:21	76-13-1	
1,1-Dichloroethane	<0.0061	mg/kg	0.34	0.0061	1	05/25/16 17:19	05/25/16 22:21	75-34-3	
1,1-Dichloroethene	<0.012	mg/kg	0.34	0.012	1	05/25/16 17:19	05/25/16 22:21	75-35-4	
1,2,4-Trichlorobenzene	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	120-82-1	
1,2,4-Trimethylbenzene	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	95-63-6	
1,2-Dibromoethane (EDB)	<0.0070	mg/kg	0.34	0.0070	1	05/25/16 17:19	05/25/16 22:21	106-93-4	
1,2-Dichlorobenzene	<0.0057	mg/kg	0.34	0.0057	1	05/25/16 17:19	05/25/16 22:21	95-50-1	
1,2-Dichloroethane	<0.0045	mg/kg	0.34	0.0045	1	05/25/16 17:19	05/25/16 22:21	107-06-2	
1,3,5-Trimethylbenzene	<0.0023	mg/kg	0.34	0.0023	1	05/25/16 17:19	05/25/16 22:21	108-67-8	
1,3-Dichlorobenzene	<0.0041	mg/kg	0.34	0.0041	1	05/25/16 17:19	05/25/16 22:21	541-73-1	
1,4-Dichlorobenzene	<0.0054	mg/kg	0.34	0.0054	1	05/25/16 17:19	05/25/16 22:21	106-46-7	
2-Butanone (MEK)	<0.068	mg/kg	3.4	0.068	1	05/25/16 17:19	05/25/16 22:21	78-93-3	
2-Hexanone	<0.026	mg/kg	3.4	0.026	1	05/25/16 17:19	05/25/16 22:21	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.7	mg/kg	3.4	1.7	1	05/25/16 17:19	05/25/16 22:21	108-10-1	
Acetone	<0.24	mg/kg	3.4	0.24	1	05/25/16 17:19	05/25/16 22:21	67-64-1	
Benzene	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	71-43-2	
Bromodichloromethane	<0.0048	mg/kg	0.34	0.0048	1	05/25/16 17:19	05/25/16 22:21	75-27-4	
Bromoform	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	75-25-2	
Bromomethane	<0.014	mg/kg	1.4	0.014	1	05/25/16 17:19	05/25/16 22:21	74-83-9	
Carbon tetrachloride	<0.0066	mg/kg	0.34	0.0066	1	05/25/16 17:19	05/25/16 22:21	56-23-5	
Chlorobenzene	<0.0062	mg/kg	0.34	0.0062	1	05/25/16 17:19	05/25/16 22:21	108-90-7	
Chloroethane	<0.0072	mg/kg	0.34	0.0072	1	05/25/16 17:19	05/25/16 22:21	75-00-3	
Chloroform	<0.0061	mg/kg	0.34	0.0061	1	05/25/16 17:19	05/25/16 22:21	67-66-3	
Chloromethane	<0.0076	mg/kg	0.34	0.0076	1	05/25/16 17:19	05/25/16 22:21	74-87-3	
Dibromochloromethane	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	124-48-1	
Dichlorodifluoromethane	<0.018	mg/kg	0.34	0.018	1	05/25/16 17:19	05/25/16 22:21	75-71-8	
Ethylbenzene	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	100-41-4	
Hexachloro-1,3-butadiene	<0.0077	mg/kg	0.34	0.0077	1	05/25/16 17:19	05/25/16 22:21	87-68-3	
Methyl-tert-butyl ether	<0.0054	mg/kg	0.34	0.0054	1	05/25/16 17:19	05/25/16 22:21	1634-04-4	
Methylene Chloride	<0.0080	mg/kg	0.34	0.0080	1	05/25/16 17:19	05/25/16 22:21	75-09-2	
Naphthalene	<0.015	mg/kg	0.34	0.015	1	05/25/16 17:19	05/25/16 22:21	91-20-3	
Styrene	<0.0037	mg/kg	0.34	0.0037	1	05/25/16 17:19	05/25/16 22:21	100-42-5	
Tetrachloroethene	<0.0055	mg/kg	0.34	0.0055	1	05/25/16 17:19	05/25/16 22:21	127-18-4	
Tetrahydrofuran	<0.10	mg/kg	6.9	0.10	1	05/25/16 17:19	05/25/16 22:21	109-99-9	
Toluene	<0.015	mg/kg	0.34	0.015	1	05/25/16 17:19	05/25/16 22:21	108-88-3	
Trichloroethene	<0.0050	mg/kg	0.34	0.0050	1	05/25/16 17:19	05/25/16 22:21	79-01-6	
Trichlorofluoromethane	<0.0065	mg/kg	0.34	0.0065	1	05/25/16 17:19	05/25/16 22:21	75-69-4	
Vinyl chloride	<0.0074	mg/kg	0.34	0.0074	1	05/25/16 17:19	05/25/16 22:21	75-01-4	
cis-1,2-Dichloroethene	<0.0081	mg/kg	0.34	0.0081	1	05/25/16 17:19	05/25/16 22:21	156-59-2	
cis-1,3-Dichloropropene	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	10061-01-5	
m&p-Xylene	<0.17	mg/kg	0.34	0.17	1	05/25/16 17:19	05/25/16 22:21	179601-23-1	
o-Xylene	<0.0052	mg/kg	0.34	0.0052	1	05/25/16 17:19	05/25/16 22:21	95-47-6	

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: SB08-SS-20split **Lab ID: 1266839001** Collected: 05/23/16 10:45 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.019	mg/kg	0.34	0.019	1	05/25/16 17:19	05/25/16 22:21	156-60-5	
trans-1,3-Dichloropropene	<0.0058	mg/kg	0.34	0.0058	1	05/25/16 17:19	05/25/16 22:21	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	70-130		1	05/25/16 17:19	05/25/16 22:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 22:21	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1	05/25/16 17:19	05/25/16 22:21	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	40.3	%	0.10	0.10	1		05/25/16 16:42		

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: SB08-SS-30split **Lab ID: 1266839002** Collected: 05/23/16 11:10 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0068	mg/kg	0.32	0.0068	1	05/25/16 17:19	05/25/16 22:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0057	mg/kg	0.32	0.0057	1	05/25/16 17:19	05/25/16 22:41	79-34-5	
1,1,2-Trichloroethane	<0.0073	mg/kg	0.32	0.0073	1	05/25/16 17:19	05/25/16 22:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0084	mg/kg	0.32	0.0084	1	05/25/16 17:19	05/25/16 22:41	76-13-1	
1,1-Dichloroethane	<0.0057	mg/kg	0.32	0.0057	1	05/25/16 17:19	05/25/16 22:41	75-34-3	
1,1-Dichloroethene	<0.011	mg/kg	0.32	0.011	1	05/25/16 17:19	05/25/16 22:41	75-35-4	
1,2,4-Trichlorobenzene	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	120-82-1	
1,2,4-Trimethylbenzene	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	95-63-6	
1,2-Dibromoethane (EDB)	<0.0066	mg/kg	0.32	0.0066	1	05/25/16 17:19	05/25/16 22:41	106-93-4	
1,2-Dichlorobenzene	<0.0053	mg/kg	0.32	0.0053	1	05/25/16 17:19	05/25/16 22:41	95-50-1	
1,2-Dichloroethane	<0.0043	mg/kg	0.32	0.0043	1	05/25/16 17:19	05/25/16 22:41	107-06-2	
1,3,5-Trimethylbenzene	<0.0022	mg/kg	0.32	0.0022	1	05/25/16 17:19	05/25/16 22:41	108-67-8	
1,3-Dichlorobenzene	<0.0039	mg/kg	0.32	0.0039	1	05/25/16 17:19	05/25/16 22:41	541-73-1	
1,4-Dichlorobenzene	<0.0050	mg/kg	0.32	0.0050	1	05/25/16 17:19	05/25/16 22:41	106-46-7	
2-Butanone (MEK)	<0.063	mg/kg	3.2	0.063	1	05/25/16 17:19	05/25/16 22:41	78-93-3	
2-Hexanone	<0.024	mg/kg	3.2	0.024	1	05/25/16 17:19	05/25/16 22:41	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.6	mg/kg	3.2	1.6	1	05/25/16 17:19	05/25/16 22:41	108-10-1	
Acetone	<0.22	mg/kg	3.2	0.22	1	05/25/16 17:19	05/25/16 22:41	67-64-1	
Benzene	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	71-43-2	
Bromodichloromethane	<0.0045	mg/kg	0.32	0.0045	1	05/25/16 17:19	05/25/16 22:41	75-27-4	
Bromoform	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	75-25-2	
Bromomethane	<0.013	mg/kg	1.3	0.013	1	05/25/16 17:19	05/25/16 22:41	74-83-9	
Carbon tetrachloride	<0.0062	mg/kg	0.32	0.0062	1	05/25/16 17:19	05/25/16 22:41	56-23-5	
Chlorobenzene	<0.0058	mg/kg	0.32	0.0058	1	05/25/16 17:19	05/25/16 22:41	108-90-7	
Chloroethane	<0.0067	mg/kg	0.32	0.0067	1	05/25/16 17:19	05/25/16 22:41	75-00-3	
Chloroform	<0.0057	mg/kg	0.32	0.0057	1	05/25/16 17:19	05/25/16 22:41	67-66-3	
Chloromethane	<0.0071	mg/kg	0.32	0.0071	1	05/25/16 17:19	05/25/16 22:41	74-87-3	
Dibromochloromethane	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	124-48-1	
Dichlorodifluoromethane	<0.017	mg/kg	0.32	0.017	1	05/25/16 17:19	05/25/16 22:41	75-71-8	
Ethylbenzene	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	100-41-4	
Hexachloro-1,3-butadiene	<0.0072	mg/kg	0.32	0.0072	1	05/25/16 17:19	05/25/16 22:41	87-68-3	
Methyl-tert-butyl ether	<0.0050	mg/kg	0.32	0.0050	1	05/25/16 17:19	05/25/16 22:41	1634-04-4	
Methylene Chloride	<0.0075	mg/kg	0.32	0.0075	1	05/25/16 17:19	05/25/16 22:41	75-09-2	
Naphthalene	<0.014	mg/kg	0.32	0.014	1	05/25/16 17:19	05/25/16 22:41	91-20-3	
Styrene	<0.0035	mg/kg	0.32	0.0035	1	05/25/16 17:19	05/25/16 22:41	100-42-5	
Tetrachloroethene	<0.0052	mg/kg	0.32	0.0052	1	05/25/16 17:19	05/25/16 22:41	127-18-4	
Tetrahydrofuran	<0.094	mg/kg	6.4	0.094	1	05/25/16 17:19	05/25/16 22:41	109-99-9	
Toluene	<0.014	mg/kg	0.32	0.014	1	05/25/16 17:19	05/25/16 22:41	108-88-3	
Trichloroethene	<0.0046	mg/kg	0.32	0.0046	1	05/25/16 17:19	05/25/16 22:41	79-01-6	
Trichlorofluoromethane	<0.0061	mg/kg	0.32	0.0061	1	05/25/16 17:19	05/25/16 22:41	75-69-4	
Vinyl chloride	<0.0070	mg/kg	0.32	0.0070	1	05/25/16 17:19	05/25/16 22:41	75-01-4	
cis-1,2-Dichloroethene	<0.0076	mg/kg	0.32	0.0076	1	05/25/16 17:19	05/25/16 22:41	156-59-2	
cis-1,3-Dichloropropene	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	10061-01-5	
m&p-Xylene	<0.16	mg/kg	0.32	0.16	1	05/25/16 17:19	05/25/16 22:41	179601-23-1	
o-Xylene	<0.0049	mg/kg	0.32	0.0049	1	05/25/16 17:19	05/25/16 22:41	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: SB08-SS-30split **Lab ID: 1266839002** Collected: 05/23/16 11:10 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.018	mg/kg	0.32	0.018	1	05/25/16 17:19	05/25/16 22:41	156-60-5	
trans-1,3-Dichloropropene	<0.0054	mg/kg	0.32	0.0054	1	05/25/16 17:19	05/25/16 22:41	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	70-130		1	05/25/16 17:19	05/25/16 22:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 22:41	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1	05/25/16 17:19	05/25/16 22:41	460-00-4	
Dry Weight, Davis									
Analytical Method: % Moisture									
Percent Moisture	33.1	%	0.10	0.10	1		05/25/16 16:44		

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: **SB10-SS-15split** Lab ID: **1266839003** Collected: 05/24/16 08:35 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0073	mg/kg	0.35	0.0073	1	05/25/16 17:19	05/25/16 23:01	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0061	mg/kg	0.35	0.0061	1	05/25/16 17:19	05/25/16 23:01	79-34-5	
1,1,2-Trichloroethane	<0.0079	mg/kg	0.35	0.0079	1	05/25/16 17:19	05/25/16 23:01	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0090	mg/kg	0.35	0.0090	1	05/25/16 17:19	05/25/16 23:01	76-13-1	
1,1-Dichloroethane	<0.0061	mg/kg	0.35	0.0061	1	05/25/16 17:19	05/25/16 23:01	75-34-3	
1,1-Dichloroethene	<0.012	mg/kg	0.35	0.012	1	05/25/16 17:19	05/25/16 23:01	75-35-4	
1,2,4-Trichlorobenzene	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	120-82-1	
1,2,4-Trimethylbenzene	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	95-63-6	
1,2-Dibromoethane (EDB)	<0.0070	mg/kg	0.35	0.0070	1	05/25/16 17:19	05/25/16 23:01	106-93-4	
1,2-Dichlorobenzene	<0.0057	mg/kg	0.35	0.0057	1	05/25/16 17:19	05/25/16 23:01	95-50-1	
1,2-Dichloroethane	<0.0046	mg/kg	0.35	0.0046	1	05/25/16 17:19	05/25/16 23:01	107-06-2	
1,3,5-Trimethylbenzene	<0.0023	mg/kg	0.35	0.0023	1	05/25/16 17:19	05/25/16 23:01	108-67-8	
1,3-Dichlorobenzene	<0.0041	mg/kg	0.35	0.0041	1	05/25/16 17:19	05/25/16 23:01	541-73-1	
1,4-Dichlorobenzene	<0.0054	mg/kg	0.35	0.0054	1	05/25/16 17:19	05/25/16 23:01	106-46-7	
2-Butanone (MEK)	<0.068	mg/kg	3.5	0.068	1	05/25/16 17:19	05/25/16 23:01	78-93-3	
2-Hexanone	<0.026	mg/kg	3.5	0.026	1	05/25/16 17:19	05/25/16 23:01	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.7	mg/kg	3.5	1.7	1	05/25/16 17:19	05/25/16 23:01	108-10-1	
Acetone	<0.24	mg/kg	3.5	0.24	1	05/25/16 17:19	05/25/16 23:01	67-64-1	
Benzene	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	71-43-2	
Bromodichloromethane	<0.0048	mg/kg	0.35	0.0048	1	05/25/16 17:19	05/25/16 23:01	75-27-4	
Bromoform	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	75-25-2	
Bromomethane	<0.014	mg/kg	1.4	0.014	1	05/25/16 17:19	05/25/16 23:01	74-83-9	
Carbon tetrachloride	<0.0066	mg/kg	0.35	0.0066	1	05/25/16 17:19	05/25/16 23:01	56-23-5	
Chlorobenzene	<0.0062	mg/kg	0.35	0.0062	1	05/25/16 17:19	05/25/16 23:01	108-90-7	
Chloroethane	<0.0072	mg/kg	0.35	0.0072	1	05/25/16 17:19	05/25/16 23:01	75-00-3	
Chloroform	<0.0061	mg/kg	0.35	0.0061	1	05/25/16 17:19	05/25/16 23:01	67-66-3	
Chloromethane	<0.0076	mg/kg	0.35	0.0076	1	05/25/16 17:19	05/25/16 23:01	74-87-3	
Dibromochloromethane	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	124-48-1	
Dichlorodifluoromethane	<0.018	mg/kg	0.35	0.018	1	05/25/16 17:19	05/25/16 23:01	75-71-8	
Ethylbenzene	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	100-41-4	
Hexachloro-1,3-butadiene	<0.0077	mg/kg	0.35	0.0077	1	05/25/16 17:19	05/25/16 23:01	87-68-3	
Methyl-tert-butyl ether	<0.0054	mg/kg	0.35	0.0054	1	05/25/16 17:19	05/25/16 23:01	1634-04-4	
Methylene Chloride	<0.0080	mg/kg	0.35	0.0080	1	05/25/16 17:19	05/25/16 23:01	75-09-2	
Naphthalene	<0.015	mg/kg	0.35	0.015	1	05/25/16 17:19	05/25/16 23:01	91-20-3	
Styrene	<0.0037	mg/kg	0.35	0.0037	1	05/25/16 17:19	05/25/16 23:01	100-42-5	
Tetrachloroethene	<0.0055	mg/kg	0.35	0.0055	1	05/25/16 17:19	05/25/16 23:01	127-18-4	
Tetrahydrofuran	<0.10	mg/kg	6.9	0.10	1	05/25/16 17:19	05/25/16 23:01	109-99-9	
Toluene	<0.015	mg/kg	0.35	0.015	1	05/25/16 17:19	05/25/16 23:01	108-88-3	
Trichloroethene	<0.0050	mg/kg	0.35	0.0050	1	05/25/16 17:19	05/25/16 23:01	79-01-6	
Trichlorofluoromethane	<0.0065	mg/kg	0.35	0.0065	1	05/25/16 17:19	05/25/16 23:01	75-69-4	
Vinyl chloride	<0.0075	mg/kg	0.35	0.0075	1	05/25/16 17:19	05/25/16 23:01	75-01-4	
cis-1,2-Dichloroethene	<0.0082	mg/kg	0.35	0.0082	1	05/25/16 17:19	05/25/16 23:01	156-59-2	
cis-1,3-Dichloropropene	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	10061-01-5	
m&p-Xylene	<0.17	mg/kg	0.35	0.17	1	05/25/16 17:19	05/25/16 23:01	179601-23-1	
o-Xylene	<0.0053	mg/kg	0.35	0.0053	1	05/25/16 17:19	05/25/16 23:01	95-47-6	

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: SB10-SS-15split **Lab ID: 1266839003** Collected: 05/24/16 08:35 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
trans-1,2-Dichloroethene	<0.019	mg/kg	0.35	0.019	1	05/25/16 17:19	05/25/16 23:01	156-60-5	
trans-1,3-Dichloropropene	<0.0058	mg/kg	0.35	0.0058	1	05/25/16 17:19	05/25/16 23:01	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	70-130		1	05/25/16 17:19	05/25/16 23:01	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 23:01	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1	05/25/16 17:19	05/25/16 23:01	460-00-4	
Dry Weight, Davis		Analytical Method: % Moisture							
Percent Moisture	29.5	%	0.10	0.10	1		05/25/16 16:47		

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: SB10-SS-25split **Lab ID: 1266839004** Collected: 05/24/16 09:05 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0065	mg/kg	0.31	0.0065	1	05/25/16 17:19	05/25/16 23:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0054	mg/kg	0.31	0.0054	1	05/25/16 17:19	05/25/16 23:21	79-34-5	
1,1,2-Trichloroethane	<0.0070	mg/kg	0.31	0.0070	1	05/25/16 17:19	05/25/16 23:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0079	mg/kg	0.31	0.0079	1	05/25/16 17:19	05/25/16 23:21	76-13-1	
1,1-Dichloroethane	<0.0054	mg/kg	0.31	0.0054	1	05/25/16 17:19	05/25/16 23:21	75-34-3	
1,1-Dichloroethene	<0.011	mg/kg	0.31	0.011	1	05/25/16 17:19	05/25/16 23:21	75-35-4	
1,2,4-Trichlorobenzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	120-82-1	
1,2,4-Trimethylbenzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	95-63-6	
1,2-Dibromoethane (EDB)	<0.0062	mg/kg	0.31	0.0062	1	05/25/16 17:19	05/25/16 23:21	106-93-4	
1,2-Dichlorobenzene	<0.0050	mg/kg	0.31	0.0050	1	05/25/16 17:19	05/25/16 23:21	95-50-1	
1,2-Dichloroethane	<0.0040	mg/kg	0.31	0.0040	1	05/25/16 17:19	05/25/16 23:21	107-06-2	
1,3,5-Trimethylbenzene	<0.0021	mg/kg	0.31	0.0021	1	05/25/16 17:19	05/25/16 23:21	108-67-8	
1,3-Dichlorobenzene	<0.0037	mg/kg	0.31	0.0037	1	05/25/16 17:19	05/25/16 23:21	541-73-1	
1,4-Dichlorobenzene	<0.0048	mg/kg	0.31	0.0048	1	05/25/16 17:19	05/25/16 23:21	106-46-7	
2-Butanone (MEK)	<0.060	mg/kg	3.1	0.060	1	05/25/16 17:19	05/25/16 23:21	78-93-3	
2-Hexanone	<0.023	mg/kg	3.1	0.023	1	05/25/16 17:19	05/25/16 23:21	591-78-6	
4-Methyl-2-pentanone (MIBK)	<1.5	mg/kg	3.1	1.5	1	05/25/16 17:19	05/25/16 23:21	108-10-1	
Acetone	<0.21	mg/kg	3.1	0.21	1	05/25/16 17:19	05/25/16 23:21	67-64-1	
Benzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	71-43-2	
Bromodichloromethane	<0.0043	mg/kg	0.31	0.0043	1	05/25/16 17:19	05/25/16 23:21	75-27-4	
Bromoform	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	75-25-2	
Bromomethane	<0.012	mg/kg	1.2	0.012	1	05/25/16 17:19	05/25/16 23:21	74-83-9	
Carbon tetrachloride	<0.0059	mg/kg	0.31	0.0059	1	05/25/16 17:19	05/25/16 23:21	56-23-5	
Chlorobenzene	<0.0055	mg/kg	0.31	0.0055	1	05/25/16 17:19	05/25/16 23:21	108-90-7	
Chloroethane	<0.0064	mg/kg	0.31	0.0064	1	05/25/16 17:19	05/25/16 23:21	75-00-3	
Chloroform	<0.0054	mg/kg	0.31	0.0054	1	05/25/16 17:19	05/25/16 23:21	67-66-3	
Chloromethane	<0.0067	mg/kg	0.31	0.0067	1	05/25/16 17:19	05/25/16 23:21	74-87-3	
Dibromochloromethane	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	124-48-1	
Dichlorodifluoromethane	<0.016	mg/kg	0.31	0.016	1	05/25/16 17:19	05/25/16 23:21	75-71-8	
Ethylbenzene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	100-41-4	
Hexachloro-1,3-butadiene	<0.0068	mg/kg	0.31	0.0068	1	05/25/16 17:19	05/25/16 23:21	87-68-3	
Methyl-tert-butyl ether	<0.0048	mg/kg	0.31	0.0048	1	05/25/16 17:19	05/25/16 23:21	1634-04-4	
Methylene Chloride	<0.0071	mg/kg	0.31	0.0071	1	05/25/16 17:19	05/25/16 23:21	75-09-2	
Naphthalene	<0.013	mg/kg	0.31	0.013	1	05/25/16 17:19	05/25/16 23:21	91-20-3	
Styrene	<0.0033	mg/kg	0.31	0.0033	1	05/25/16 17:19	05/25/16 23:21	100-42-5	
Tetrachloroethene	<0.0049	mg/kg	0.31	0.0049	1	05/25/16 17:19	05/25/16 23:21	127-18-4	
Tetrahydrofuran	<0.089	mg/kg	6.1	0.089	1	05/25/16 17:19	05/25/16 23:21	109-99-9	
Toluene	<0.013	mg/kg	0.31	0.013	1	05/25/16 17:19	05/25/16 23:21	108-88-3	
Trichloroethene	<0.0044	mg/kg	0.31	0.0044	1	05/25/16 17:19	05/25/16 23:21	79-01-6	
Trichlorofluoromethane	<0.0057	mg/kg	0.31	0.0057	1	05/25/16 17:19	05/25/16 23:21	75-69-4	
Vinyl chloride	<0.0066	mg/kg	0.31	0.0066	1	05/25/16 17:19	05/25/16 23:21	75-01-4	
cis-1,2-Dichloroethene	<0.0072	mg/kg	0.31	0.0072	1	05/25/16 17:19	05/25/16 23:21	156-59-2	
cis-1,3-Dichloropropene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	10061-01-5	
m&p-Xylene	<0.15	mg/kg	0.31	0.15	1	05/25/16 17:19	05/25/16 23:21	179601-23-1	
o-Xylene	<0.0046	mg/kg	0.31	0.0046	1	05/25/16 17:19	05/25/16 23:21	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Sample: SB10-SS-25split **Lab ID: 1266839004** Collected: 05/24/16 09:05 Received: 05/25/16 09:40 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.017	mg/kg	0.31	0.017	1	05/25/16 17:19	05/25/16 23:21	156-60-5	
trans-1,3-Dichloropropene	<0.0051	mg/kg	0.31	0.0051	1	05/25/16 17:19	05/25/16 23:21	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	70-130		1	05/25/16 17:19	05/25/16 23:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	05/25/16 17:19	05/25/16 23:21	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1	05/25/16 17:19	05/25/16 23:21	460-00-4	
Dry Weight, Davis									
Analytical Method: % Moisture									
Percent Moisture	33.3	%	0.10	0.10	1		05/25/16 16:49		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

QC Batch: DAVM/3833 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Soil
Associated Lab Samples: 1266839001, 1266839002, 1266839003, 1266839004

METHOD BLANK: 322066 Matrix: Solid
Associated Lab Samples: 1266839001, 1266839002, 1266839003, 1266839004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	0.014J	0.25	0.0052	05/25/16 18:33	
1,1,2,2-Tetrachloroethane	mg/kg	0.033J	0.25	0.0044	05/25/16 18:33	
1,1,2-Trichloroethane	mg/kg	0.039J	0.25	0.0056	05/25/16 18:33	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.0064	0.25	0.0064	05/25/16 18:33	
1,1-Dichloroethane	mg/kg	0.031J	0.25	0.0044	05/25/16 18:33	
1,1-Dichloroethene	mg/kg	0.015J	0.25	0.0088	05/25/16 18:33	
1,2,4-Trichlorobenzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
1,2,4-Trimethylbenzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
1,2-Dibromoethane (EDB)	mg/kg	0.035J	0.25	0.0050	05/25/16 18:33	
1,2-Dichlorobenzene	mg/kg	0.040J	0.25	0.0041	05/25/16 18:33	
1,2-Dichloroethane	mg/kg	0.056J	0.25	0.0033	05/25/16 18:33	
1,3,5-Trimethylbenzene	mg/kg	0.034J	0.25	0.0017	05/25/16 18:33	
1,3-Dichlorobenzene	mg/kg	0.039J	0.25	0.0030	05/25/16 18:33	
1,4-Dichlorobenzene	mg/kg	0.041J	0.25	0.0039	05/25/16 18:33	
2-Butanone (MEK)	mg/kg	0.18J	2.5	0.049	05/25/16 18:33	
2-Hexanone	mg/kg	0.15J	2.5	0.019	05/25/16 18:33	
4-Methyl-2-pentanone (MIBK)	mg/kg	<1.2	2.5	1.2	05/25/16 18:33	
Acetone	mg/kg	<0.17	2.5	0.17	05/25/16 18:33	
Benzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Bromodichloromethane	mg/kg	0.029J	0.25	0.0035	05/25/16 18:33	
Bromoform	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Bromomethane	mg/kg	<0.0099	0.99	0.0099	05/25/16 18:33	
Carbon tetrachloride	mg/kg	0.025J	0.25	0.0048	05/25/16 18:33	
Chlorobenzene	mg/kg	0.038J	0.25	0.0045	05/25/16 18:33	
Chloroethane	mg/kg	<0.0051	0.25	0.0051	05/25/16 18:33	
Chloroform	mg/kg	0.033J	0.25	0.0044	05/25/16 18:33	
Chloromethane	mg/kg	0.0077J	0.25	0.0054	05/25/16 18:33	
cis-1,2-Dichloroethene	mg/kg	0.022J	0.25	0.0058	05/25/16 18:33	
cis-1,3-Dichloropropene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Dibromochloromethane	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Dichlorodifluoromethane	mg/kg	<0.013	0.25	0.013	05/25/16 18:33	
Ethylbenzene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Hexachloro-1,3-butadiene	mg/kg	0.035J	0.25	0.0055	05/25/16 18:33	
m&p-Xylene	mg/kg	<0.12	0.25	0.12	05/25/16 18:33	
Methyl-tert-butyl ether	mg/kg	0.0090J	0.25	0.0039	05/25/16 18:33	
Methylene Chloride	mg/kg	<0.0057	0.25	0.0057	05/25/16 18:33	
Naphthalene	mg/kg	0.043J	0.25	0.011	05/25/16 18:33	
o-Xylene	mg/kg	0.038J	0.25	0.0038	05/25/16 18:33	
Styrene	mg/kg	0.040J	0.25	0.0027	05/25/16 18:33	
Tetrachloroethene	mg/kg	0.036J	0.25	0.0040	05/25/16 18:33	
Tetrahydrofuran	mg/kg	0.34J	5.0	0.072	05/25/16 18:33	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

METHOD BLANK: 322066

Matrix: Solid

Associated Lab Samples: 1266839001, 1266839002, 1266839003, 1266839004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	0.036J	0.25	0.011	05/25/16 18:33	
trans-1,2-Dichloroethene	mg/kg	0.029J	0.25	0.014	05/25/16 18:33	
trans-1,3-Dichloropropene	mg/kg	0.028J	0.25	0.0042	05/25/16 18:33	
Trichloroethene	mg/kg	0.035J	0.25	0.0036	05/25/16 18:33	
Trichlorofluoromethane	mg/kg	0.014J	0.25	0.0047	05/25/16 18:33	
Vinyl chloride	mg/kg	0.040J	0.25	0.0053	05/25/16 18:33	
1,2-Dichloroethane-d4 (S)	%	96	70-130		05/25/16 18:33	
4-Bromofluorobenzene (S)	%	98	70-130		05/25/16 18:33	
Toluene-d8 (S)	%	100	70-130		05/25/16 18:33	

LABORATORY CONTROL SAMPLE: 322067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	2	1.9	97	75-126	
1,1,2,2-Tetrachloroethane	mg/kg	2	2.1	104	58-140	
1,1,2-Trichloroethane	mg/kg	2	2.0	102	57-136	
1,1,2-Trichlorotrifluoroethane	mg/kg	2	2.1	103	70-130	
1,1-Dichloroethane	mg/kg	2	2.0	100	75-125	
1,1-Dichloroethene	mg/kg	2	1.9	96	74-125	
1,2,4-Trichlorobenzene	mg/kg	2	2.1	107	75-139	
1,2,4-Trimethylbenzene	mg/kg	2	2.1	106	75-128	
1,2-Dibromoethane (EDB)	mg/kg	2	2.0	100	60-138	
1,2-Dichlorobenzene	mg/kg	2	2.0	99	75-125	
1,2-Dichloroethane	mg/kg	2	1.8	93	75-125	
1,3,5-Trimethylbenzene	mg/kg	2	2.1	104	75-125	
1,3-Dichlorobenzene	mg/kg	2	2.0	99	75-125	
1,4-Dichlorobenzene	mg/kg	2	1.9	95	75-125	
2-Butanone (MEK)	mg/kg	10	9.7	97	70-130	
2-Hexanone	mg/kg	10	9.7	98	70-130	
4-Methyl-2-pentanone (MIBK)	mg/kg	10	9.8	98	70-130	
Acetone	mg/kg	10	9.0	90	70-130	
Benzene	mg/kg	2	2.0	99	75-125	
Bromodichloromethane	mg/kg	2	1.9	97	75-125	
Bromoform	mg/kg	2	2.0	98	61-125	
Bromomethane	mg/kg	2	1.7	88	30-125	
Carbon tetrachloride	mg/kg	2	1.9	97	72-136	
Chlorobenzene	mg/kg	2	2.0	100	75-125	
Chloroethane	mg/kg	2	2.0	101	30-134	
Chloroform	mg/kg	2	1.9	97	75-125	
Chloromethane	mg/kg	2	2.2	110	54-128	
cis-1,2-Dichloroethene	mg/kg	2	2.0	102	75-125	
cis-1,3-Dichloropropene	mg/kg	2	2.1	108	75-132	
Dibromochloromethane	mg/kg	2	2.0	99	47-139	
Dichlorodifluoromethane	mg/kg	2	1.7	83	47-125	

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QUALITY CONTROL DATA

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

LABORATORY CONTROL SAMPLE: 322067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	mg/kg	2	2.0	102	75-128	
Hexachloro-1,3-butadiene	mg/kg	2	2.1	105	75-131	
m&p-Xylene	mg/kg	4	4.2	105	75-131	
Methyl-tert-butyl ether	mg/kg	2	2.0	101	75-125	
Methylene Chloride	mg/kg	2	2.0	98	70-133	
Naphthalene	mg/kg	2	2.1	104	75-126	
o-Xylene	mg/kg	2	2.0	102	75-127	
Styrene	mg/kg	2	2.1	104	75-130	
Tetrachloroethene	mg/kg	2	2.0	101	75-125	
Tetrahydrofuran	mg/kg	20	19.4	97	70-130	
Toluene	mg/kg	2	2.1	103	75-125	
trans-1,2-Dichloroethene	mg/kg	2	1.9	95	75-125	
trans-1,3-Dichloropropene	mg/kg	2	2.0	100	60-140	
Trichloroethene	mg/kg	2	2.0	99	75-125	
Trichlorofluoromethane	mg/kg	2	1.9	97	30-135	
Vinyl chloride	mg/kg	2	2.0	98	65-134	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 322078 322079

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		1266743001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	mg/kg	0.015J	2.1	2.4	1.7	1.8	79	75	75-125	4	25	
1,1,2,2-Tetrachloroethane	mg/kg	0.025J	2.1	2.4	2.1	2.3	97	95	62-142	8	25	
1,1,2-Trichloroethane	mg/kg	0.027J	2.1	2.4	2.0	2.1	91	87	60-150	6	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.0077	2.1	2.4	1.4	1.4	67	57	70-130	6	25	M1
1,1-Dichloroethane	mg/kg	<0.0052	2.1	2.4	1.8	1.9	84	79	75-125	5	25	
1,1-Dichloroethene	mg/kg	<0.010	2.1	2.4	1.5	1.4	71	58	75-125	9	25	M1
1,2,4-Trichlorobenzene	mg/kg	<0.15	2.1	2.4	2.0	2.2	92	92	75-137	9	25	
1,2,4-Trimethylbenzene	mg/kg	<0.15	2.1	2.4	2.0	2.2	91	89	59-138	8	25	
1,2-Dibromoethane (EDB)	mg/kg	0.021J	2.1	2.4	2.0	2.1	90	87	75-125	6	25	
1,2-Dichlorobenzene	mg/kg	0.024J	2.1	2.4	1.9	2.0	86	84	75-125	8	25	
1,2-Dichloroethane	mg/kg	0.036J	2.1	2.4	1.7	1.8	79	75	75-125	5	25	
1,3,5-Trimethylbenzene	mg/kg	0.020J	2.1	2.4	1.9	2.1	88	86	71-133	8	25	
1,3-Dichlorobenzene	mg/kg	0.022J	2.1	2.4	1.9	2.0	87	84	75-125	7	25	
1,4-Dichlorobenzene	mg/kg	0.027J	2.1	2.4	1.8	2.0	82	82	75-125	10	25	
2-Butanone (MEK)	mg/kg	<0.058	10.8	12	10.9	11.9	101	99	70-130	9	25	
2-Hexanone	mg/kg	0.12J	10.8	12	11.0	11.6	100	96	70-130	6	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	<1.5	10.8	12	10.8	11.4	98	94	70-130	6	25	
Acetone	mg/kg	<0.20	10.8	12	9.9	10.2	92	85	70-130	3	25	
Benzene	mg/kg	<0.15	2.1	2.4	1.8	1.9	82	77	75-125	4	25	
Bromodichloromethane	mg/kg	<0.0041	2.1	2.4	1.9	2.0	86	82	75-125	5	25	

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QUALITY CONTROL DATA

Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 322078		322079		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		1266743001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Bromoform	mg/kg	<0.15	2.1	2.4	1.9	2.1	88	87	61-133	9	25		
Bromomethane	mg/kg	<0.012	2.1	2.4	1.7	1.6	79	66	30-145	8	25		
Carbon tetrachloride	mg/kg	<0.0057	2.1	2.4	1.7	1.8	80	76	75-125	5	25		
Chlorobenzene	mg/kg	0.026J	2.1	2.4	1.9	2.0	85	83	75-125	8	25		
Chloroethane	mg/kg	<0.0061	2.1	2.4	1.6	1.6	74	67	30-138	0	25		
Chloroform	mg/kg	0.016J	2.1	2.4	1.8	1.9	81	78	75-125	6	25		
Chloromethane	mg/kg	<0.0065	2.1	2.4	1.6	1.4	75	60	65-126	13	25	M1	
cis-1,2-Dichloroethene	mg/kg	0.019J	2.1	2.4	1.9	2.0	87	81	75-125	3	25		
cis-1,3-Dichloropropene	mg/kg	<0.15	2.1	2.4	2.0	2.2	94	92	75-125	8	25		
Dibromochloromethane	mg/kg	<0.15	2.1	2.4	1.9	2.1	86	85	64-133	9	25		
Dichlorodifluoromethane	mg/kg	<0.015	2.1	2.4	0.53	0.49	25	20	52-125	9	25	M1	
Ethylbenzene	mg/kg	<0.15	2.1	2.4	1.9	2.1	86	86	71-135	10	25		
Hexachloro-1,3-butadiene	mg/kg	0.025J	2.1	2.4	2.0	2.2	89	90	75-127	11	25		
m&p-Xylene	mg/kg	<0.15	4.3	4.9	3.9	4.3	89	88	63-138	8	25		
Methyl-tert-butyl ether	mg/kg	<0.0046	2.1	2.4	2.0	2.1	91	86	75-125	4	25		
Methylene Chloride	mg/kg	<0.0068	2.1	2.4	1.7	1.9	77	79	75-130	14	25		
Naphthalene	mg/kg	0.030J	2.1	2.4	2.2	2.3	99	96	56-150	8	25		
o-Xylene	mg/kg	0.021J	2.1	2.4	1.9	2.1	87	86	75-126	9	25		
Styrene	mg/kg	0.021J	2.1	2.4	2.0	2.1	89	88	75-134	9	25		
Tetrachloroethene	mg/kg	<0.0047	2.1	2.4	1.9	1.9	86	81	75-125	4	25		
Tetrahydrofuran	mg/kg	0.25J	21.7	24	21.9	23.4	100	97	70-130	7	25		
Toluene	mg/kg	0.024J	2.1	2.4	1.9	2.0	85	84	75-125	9	25		
trans-1,2-Dichloroethene	mg/kg	<0.017	2.1	2.4	1.7	1.8	81	73	75-125	1	25	M1	
trans-1,3-Dichloropropene	mg/kg	0.016J	2.1	2.4	1.9	2.0	87	85	74-135	8	25		
Trichloroethene	mg/kg	0.021J	2.1	2.4	1.8	2.0	84	81	75-125	6	25		
Trichlorofluoromethane	mg/kg	<0.0055	2.1	2.4	1.1	1.3	53	55	30-126	13	25		
Vinyl chloride	mg/kg	<0.0064	2.1	2.4	1.4	1.3	66	55	75-130	9	25	M1	
1,2-Dichloroethane-d4 (S)	%						95	93	70-130				
4-Bromofluorobenzene (S)	%						99	102	70-130				
Toluene-d8 (S)	%						101	99	70-130				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 661508.10.02.02 UPRR Freeman
Pace Project No.: 1266839

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

WORKORDER QUALIFIERS

WO: 1266839
[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 661508.10.02.02 UPRR Freeman

Pace Project No.: 1266839

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1266839001	SB08-SS-20split	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266839002	SB08-SS-30split	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266839003	SB10-SS-15split	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266839004	SB10-SS-25split	EPA 5035/5030B	DAVM/3833	EPA 8260B	DAVM/3835
1266839001	SB08-SS-20split	% Moisture	DAWT/2095		
1266839002	SB08-SS-30split	% Moisture	DAWT/2095		
1266839003	SB10-SS-15split	% Moisture	DAWT/2095		
1266839004	SB10-SS-25split	% Moisture	DAWT/2095		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

Client Name: CH2M HILL

Project #:

WO# : 1266839



1266839

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other: N/A

Tracking Number: 6662 9805 6637

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: N/A Temp Blank? Yes No

Thermom. Used: DA1434 DA2285 Type of Ice: Wet Blue Dry Ice None Samples on ice, cooling process has begun

Cooler Temp Read(°C): 6.2 Cooler Temp Corrected(°C): 6.6 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: +0.4 Date and Initials of Person Examining Contents: CHL 052516

			Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	<u>5 DAY TAT</u>
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed:	Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.	
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: Steve / Mark at CH2M Hill Date/Time: 05/25/16 13:54

Comments/Resolution: Notified the client samples arrived over temperature, per Mark proceed with analysis.

Project Manager Review: JENNI GROSS Date: 05/25/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of field, incorrect preservative, out of temp, incorrect containers)

June 21, 2016

Mark Ochsner
CH2M Hill
2020 SW 4th Avenue
Portland, OR 97201

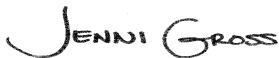
RE: Project: UPRR_Freeman
Pace Project No.: 1268229

Dear Mark Ochsner:

Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR_Freeman
Pace Project No.: 1268229

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002
Washington Certification #: C926-15a

California Certification #: 08263CA
Minnesota Department of Health Certification #: 006-999-465

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR_Freeman

Pace Project No.: 1268229

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1268229001	Trip Blank	Water	06/13/16 08:00	06/14/16 09:30
1268229002	SB03-1606	Water	06/13/16 09:30	06/14/16 09:30
1268229003	SB04-1606	Water	06/13/16 12:40	06/14/16 09:30
1268229004	SB05-1606	Water	06/13/16 11:55	06/14/16 09:30
1268229005	MW3-1606	Water	06/13/16 10:30	06/14/16 09:30
1268229006	FD-1606	Water	06/13/16 17:00	06/14/16 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman

Pace Project No.: 1268229

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1268229001	Trip Blank	EPA 8260B	JMB	83	PASI-DAV
		EPA 8260B	AH2	4	PASI-M
1268229002	SB03-1606	EPA 8260B	JMB	83	PASI-DAV
		EPA 8260B	AH2	4	PASI-M
1268229003	SB04-1606	EPA 8260B	JCP, JMB	83	PASI-DAV
		EPA 8260B	AH2	4	PASI-M
1268229004	SB05-1606	EPA 8260B	JMB	83	PASI-DAV
		EPA 8260B	AH2	4	PASI-M
1268229005	MW3-1606	EPA 8260B	JMB	83	PASI-DAV
		EPA 8260B	AH2	4	PASI-M
1268229006	FD-1606	EPA 8260B	JMB	83	PASI-DAV
		EPA 8260B	AH2	4	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman

Pace Project No.: 1268229

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
1268229001	Trip Blank					
EPA 8260B	2-Butanone (MEK)	2.2J	ug/L	5.0	06/14/16 22:55	
EPA 8260B	Acetone	9.5J	ug/L	10.0	06/14/16 22:55	
EPA 8260B	Naphthalene	0.17J	ug/L	0.50	06/14/16 22:55	B
EPA 8260B	Toluene	0.20J	ug/L	0.50	06/14/16 22:55	
1268229002	SB03-1606					
EPA 8260B	Acetone	4.1J	ug/L	10.0	06/14/16 23:15	
EPA 8260B	Carbon tetrachloride	1.1	ug/L	0.50	06/14/16 23:15	
EPA 8260B	Chloroform	0.26J	ug/L	0.50	06/14/16 23:15	
EPA 8260B	Ethylbenzene	0.36J	ug/L	0.50	06/14/16 23:15	
EPA 8260B	Naphthalene	0.13J	ug/L	0.50	06/14/16 23:15	B
EPA 8260B	Xylene (Total)	3.4	ug/L	1.5	06/14/16 23:15	
EPA 8260B	m&p-Xylene	2.0	ug/L	1.0	06/14/16 23:15	
EPA 8260B	o-Xylene	1.4	ug/L	0.50	06/14/16 23:15	
1268229003	SB04-1606					
EPA 8260B	Acetone	5.4J	ug/L	10.0	06/14/16 23:35	
EPA 8260B	Carbon tetrachloride	506	ug/L	2.5	06/21/16 01:59	
EPA 8260B	Chloroform	95.1	ug/L	0.50	06/14/16 23:35	
EPA 8260B	Ethylbenzene	0.19J	ug/L	0.50	06/14/16 23:35	
EPA 8260B	Naphthalene	0.13J	ug/L	0.50	06/14/16 23:35	B
EPA 8260B	Xylene (Total)	0.57J	ug/L	1.5	06/14/16 23:35	
EPA 8260B	m&p-Xylene	0.87J	ug/L	1.0	06/14/16 23:35	
EPA 8260B	o-Xylene	0.57	ug/L	0.50	06/14/16 23:35	
1268229004	SB05-1606					
EPA 8260B	1,2-Dichloroethane	0.38J	ug/L	0.50	06/14/16 21:15	
EPA 8260B	Acetone	5.0J	ug/L	10.0	06/14/16 21:15	
EPA 8260B	Carbon tetrachloride	181	ug/L	0.50	06/14/16 21:15	
EPA 8260B	Chloroform	60.0	ug/L	0.50	06/14/16 21:15	
EPA 8260B	Ethylbenzene	0.33J	ug/L	0.50	06/14/16 21:15	
EPA 8260B	Naphthalene	0.13J	ug/L	0.50	06/14/16 21:15	B
EPA 8260B	Xylene (Total)	2.5	ug/L	1.5	06/14/16 21:15	
EPA 8260B	m&p-Xylene	1.5	ug/L	1.0	06/14/16 21:15	
EPA 8260B	o-Xylene	0.97	ug/L	0.50	06/14/16 21:15	
1268229005	MW3-1606					
EPA 8260B	Acetone	3.5J	ug/L	10.0	06/14/16 23:55	
EPA 8260B	Naphthalene	0.088J	ug/L	0.50	06/14/16 23:55	B
EPA 8260B	m&p-Xylene	0.71J	ug/L	1.0	06/14/16 23:55	
EPA 8260B	o-Xylene	0.43J	ug/L	0.50	06/14/16 23:55	
1268229006	FD-1606					
EPA 8260B	Acetone	6.7J	ug/L	10.0	06/15/16 00:15	
EPA 8260B	Naphthalene	0.091J	ug/L	0.50	06/15/16 00:15	B
EPA 8260B	m&p-Xylene	0.58J	ug/L	1.0	06/15/16 00:15	
EPA 8260B	o-Xylene	0.45J	ug/L	0.50	06/15/16 00:15	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1268229

Method: EPA 8260B
Description: 8260 MSV Med Water
Client: UPRR_CH2M Hill
Date: June 21, 2016

General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

B: Analyte was detected in the associated method blank.

- FD-1606 (Lab ID: 1268229006)
- MW3-1606 (Lab ID: 1268229005)
- SB03-1606 (Lab ID: 1268229002)
- SB04-1606 (Lab ID: 1268229003)
- SB05-1606 (Lab ID: 1268229004)
- Trip Blank (Lab ID: 1268229001)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: DAVM/3950

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 329983)
- Acrolein

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: DAVM/3950

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1268229004

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 329984)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1268229

Method: EPA 8260B
Description: 8260 MSV Med Water
Client: UPRR_CH2M Hill
Date: June 21, 2016

QC Batch: DAVM/3950

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1268229004

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Acrolein
- MSD (Lab ID: 329985)
- Acrolein

Additional Comments:

Batch Comments:

The initial and continuing calibration checks for acrolein are above Pace Analytical acceptance limits. Acrolein is not present above the reporting limit in the associated samples. Results are unaffected by high bias.

- QC Batch: DAVM / 3950

Analyte Comments:

QC Batch: DAVM/3950

B: Analyte was detected in the associated method blank.

- FD-1606 (Lab ID: 1268229006)
 - Naphthalene
- MW3-1606 (Lab ID: 1268229005)
 - Naphthalene
- SB03-1606 (Lab ID: 1268229002)
 - Naphthalene
- SB04-1606 (Lab ID: 1268229003)
 - Naphthalene
- SB05-1606 (Lab ID: 1268229004)
 - Naphthalene
- Trip Blank (Lab ID: 1268229001)
 - Naphthalene

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 329984)
 - Carbon tetrachloride
- MSD (Lab ID: 329985)
 - Carbon tetrachloride

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1268229

Method: EPA 8260B
Description: 8260B MSV Low Level
Client: UPRR_CH2M Hill
Date: June 21, 2016

General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: Trip Blank Lab ID: 1268229001 Collected: 06/13/16 08:00 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		06/14/16 22:55	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/14/16 22:55	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		06/14/16 22:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		06/14/16 22:55	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		06/14/16 22:55	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		06/14/16 22:55	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		06/14/16 22:55	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		06/14/16 22:55	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		06/14/16 22:55	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		06/14/16 22:55	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		06/14/16 22:55	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		06/14/16 22:55	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		06/14/16 22:55	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		06/14/16 22:55	123-91-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		06/14/16 22:55	594-20-7	
2-Butanone (MEK)	2.2J	ug/L	5.0	0.45	1		06/14/16 22:55	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		06/14/16 22:55	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		06/14/16 22:55	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		06/14/16 22:55	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		06/14/16 22:55	108-10-1	
Acetone	9.5J	ug/L	10.0	1.7	1		06/14/16 22:55	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		06/14/16 22:55	107-02-8	L3
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		06/14/16 22:55	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		06/14/16 22:55	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		06/14/16 22:55	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		06/14/16 22:55	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		06/14/16 22:55	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		06/14/16 22:55	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		06/14/16 22:55	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		06/14/16 22:55	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		06/14/16 22:55	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		06/14/16 22:55	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		06/14/16 22:55	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: Trip Blank **Lab ID: 1268229001** Collected: 06/13/16 08:00 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water Analytical Method: EPA 8260B									
Dibromomethane	<0.13	ug/L	0.50	0.13	1		06/14/16 22:55	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		06/14/16 22:55	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		06/14/16 22:55	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		06/14/16 22:55	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		06/14/16 22:55	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		06/14/16 22:55	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		06/14/16 22:55	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		06/14/16 22:55	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		06/14/16 22:55	75-09-2	
Naphthalene	0.17J	ug/L	0.50	0.068	1		06/14/16 22:55	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		06/14/16 22:55	109-99-9	
Toluene	0.20J	ug/L	0.50	0.10	1		06/14/16 22:55	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 22:55	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		06/14/16 22:55	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		06/14/16 22:55	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		06/14/16 22:55	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		06/14/16 22:55	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		06/14/16 22:55	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 22:55	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		06/14/16 22:55	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		06/14/16 22:55	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		06/14/16 22:55	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		06/14/16 22:55	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		06/14/16 22:55	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 22:55	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 22:55	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		06/14/16 22:55	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		06/14/16 22:55	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		06/14/16 22:55	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/14/16 22:55	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		06/14/16 22:55	460-00-4	
8260B MSV Low Level Analytical Method: EPA 8260B									
2,2,4-Trimethylpentane	<0.21	ug/L	4.0	0.21	1		06/17/16 01:00	540-84-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		06/17/16 01:00	17060-07-0	
Toluene-d8 (S)	86	%	75-125		1		06/17/16 01:00	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		06/17/16 01:00	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **SB03-1606** Lab ID: **1268229002** Collected: 06/13/16 09:30 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		06/14/16 23:15	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/14/16 23:15	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		06/14/16 23:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		06/14/16 23:15	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		06/14/16 23:15	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		06/14/16 23:15	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		06/14/16 23:15	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		06/14/16 23:15	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		06/14/16 23:15	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:15	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		06/14/16 23:15	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:15	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		06/14/16 23:15	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		06/14/16 23:15	123-91-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		06/14/16 23:15	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		06/14/16 23:15	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		06/14/16 23:15	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		06/14/16 23:15	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		06/14/16 23:15	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		06/14/16 23:15	108-10-1	
Acetone	4.1J	ug/L	10.0	1.7	1		06/14/16 23:15	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		06/14/16 23:15	107-02-8	L3
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		06/14/16 23:15	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		06/14/16 23:15	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		06/14/16 23:15	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		06/14/16 23:15	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		06/14/16 23:15	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	75-15-0	
Carbon tetrachloride	1.1	ug/L	0.50	0.12	1		06/14/16 23:15	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		06/14/16 23:15	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		06/14/16 23:15	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		06/14/16 23:15	75-00-3	
Chloroform	0.26J	ug/L	0.50	0.098	1		06/14/16 23:15	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		06/14/16 23:15	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:15	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **SB03-1606** Lab ID: **1268229002** Collected: 06/13/16 09:30 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water Analytical Method: EPA 8260B									
Dibromomethane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:15	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		06/14/16 23:15	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		06/14/16 23:15	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		06/14/16 23:15	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	637-92-3	
Ethylbenzene	0.36J	ug/L	0.50	0.098	1		06/14/16 23:15	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		06/14/16 23:15	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		06/14/16 23:15	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		06/14/16 23:15	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		06/14/16 23:15	75-09-2	
Naphthalene	0.13J	ug/L	0.50	0.068	1		06/14/16 23:15	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		06/14/16 23:15	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		06/14/16 23:15	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:15	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:15	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		06/14/16 23:15	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	75-01-4	
Xylene (Total)	3.4	ug/L	1.5	0.50	1		06/14/16 23:15	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		06/14/16 23:15	10061-01-5	
m&p-Xylene	2.0	ug/L	1.0	0.50	1		06/14/16 23:15	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:15	103-65-1	
o-Xylene	1.4	ug/L	0.50	0.11	1		06/14/16 23:15	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		06/14/16 23:15	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		06/14/16 23:15	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		06/14/16 23:15	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		06/14/16 23:15	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:15	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:15	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		06/14/16 23:15	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		06/14/16 23:15	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		06/14/16 23:15	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/14/16 23:15	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		06/14/16 23:15	460-00-4	
8260B MSV Low Level Analytical Method: EPA 8260B									
2,2,4-Trimethylpentane	<0.21	ug/L	4.0	0.21	1		06/17/16 04:00	540-84-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		06/17/16 04:00	17060-07-0	
Toluene-d8 (S)	86	%	75-125		1		06/17/16 04:00	2037-26-5	
4-Bromofluorobenzene (S)	93	%	75-125		1		06/17/16 04:00	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **SB04-1606** Lab ID: **1268229003** Collected: 06/13/16 12:40 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		06/14/16 23:35	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/14/16 23:35	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		06/14/16 23:35	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		06/14/16 23:35	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		06/14/16 23:35	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		06/14/16 23:35	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		06/14/16 23:35	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		06/14/16 23:35	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		06/14/16 23:35	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:35	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		06/14/16 23:35	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:35	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		06/14/16 23:35	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		06/14/16 23:35	123-91-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		06/14/16 23:35	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		06/14/16 23:35	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		06/14/16 23:35	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		06/14/16 23:35	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		06/14/16 23:35	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		06/14/16 23:35	108-10-1	
Acetone	5.4J	ug/L	10.0	1.7	1		06/14/16 23:35	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		06/14/16 23:35	107-02-8	L3
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		06/14/16 23:35	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		06/14/16 23:35	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		06/14/16 23:35	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		06/14/16 23:35	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		06/14/16 23:35	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	75-15-0	
Carbon tetrachloride	506	ug/L	2.5	0.58	5		06/21/16 01:59	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		06/14/16 23:35	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		06/14/16 23:35	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		06/14/16 23:35	75-00-3	
Chloroform	95.1	ug/L	0.50	0.098	1		06/14/16 23:35	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		06/14/16 23:35	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:35	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: SB04-1606 **Lab ID: 1268229003** Collected: 06/13/16 12:40 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water Analytical Method: EPA 8260B									
Dibromomethane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:35	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		06/14/16 23:35	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		06/14/16 23:35	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		06/14/16 23:35	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	637-92-3	
Ethylbenzene	0.19J	ug/L	0.50	0.098	1		06/14/16 23:35	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		06/14/16 23:35	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		06/14/16 23:35	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		06/14/16 23:35	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		06/14/16 23:35	75-09-2	
Naphthalene	0.13J	ug/L	0.50	0.068	1		06/14/16 23:35	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		06/14/16 23:35	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		06/14/16 23:35	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:35	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:35	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		06/14/16 23:35	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	75-01-4	
Xylene (Total)	0.57J	ug/L	1.5	0.50	1		06/14/16 23:35	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		06/14/16 23:35	10061-01-5	
m&p-Xylene	0.87J	ug/L	1.0	0.50	1		06/14/16 23:35	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:35	103-65-1	
o-Xylene	0.57	ug/L	0.50	0.11	1		06/14/16 23:35	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		06/14/16 23:35	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		06/14/16 23:35	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		06/14/16 23:35	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		06/14/16 23:35	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:35	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:35	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		06/14/16 23:35	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		06/14/16 23:35	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		06/14/16 23:35	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/14/16 23:35	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		06/14/16 23:35	460-00-4	
8260B MSV Low Level Analytical Method: EPA 8260B									
2,2,4-Trimethylpentane	<0.21	ug/L	4.0	0.21	1		06/17/16 04:22	540-84-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		06/17/16 04:22	17060-07-0	
Toluene-d8 (S)	84	%	75-125		1		06/17/16 04:22	2037-26-5	
4-Bromofluorobenzene (S)	94	%	75-125		1		06/17/16 04:22	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **SB05-1606** Lab ID: **1268229004** Collected: 06/13/16 11:55 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		06/14/16 21:15	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/14/16 21:15	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		06/14/16 21:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		06/14/16 21:15	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		06/14/16 21:15	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		06/14/16 21:15	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		06/14/16 21:15	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		06/14/16 21:15	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		06/14/16 21:15	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		06/14/16 21:15	95-50-1	
1,2-Dichloroethane	0.38J	ug/L	0.50	0.10	1		06/14/16 21:15	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		06/14/16 21:15	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		06/14/16 21:15	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		06/14/16 21:15	123-91-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		06/14/16 21:15	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		06/14/16 21:15	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		06/14/16 21:15	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		06/14/16 21:15	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		06/14/16 21:15	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		06/14/16 21:15	108-10-1	
Acetone	5.0J	ug/L	10.0	1.7	1		06/14/16 21:15	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		06/14/16 21:15	107-02-8	L3,M0
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		06/14/16 21:15	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		06/14/16 21:15	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		06/14/16 21:15	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		06/14/16 21:15	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		06/14/16 21:15	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	75-15-0	
Carbon tetrachloride	181	ug/L	0.50	0.12	1		06/14/16 21:15	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		06/14/16 21:15	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		06/14/16 21:15	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		06/14/16 21:15	75-00-3	
Chloroform	60.0	ug/L	0.50	0.098	1		06/14/16 21:15	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		06/14/16 21:15	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		06/14/16 21:15	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Project No.: 1268229

Sample: **SB05-1606** Lab ID: **1268229004** Collected: 06/13/16 11:55 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water Analytical Method: EPA 8260B									
Dibromomethane	<0.13	ug/L	0.50	0.13	1		06/14/16 21:15	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		06/14/16 21:15	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		06/14/16 21:15	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		06/14/16 21:15	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	637-92-3	
Ethylbenzene	0.33J	ug/L	0.50	0.098	1		06/14/16 21:15	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		06/14/16 21:15	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		06/14/16 21:15	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		06/14/16 21:15	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		06/14/16 21:15	75-09-2	
Naphthalene	0.13J	ug/L	0.50	0.068	1		06/14/16 21:15	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		06/14/16 21:15	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		06/14/16 21:15	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 21:15	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		06/14/16 21:15	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		06/14/16 21:15	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	75-01-4	
Xylene (Total)	2.5	ug/L	1.5	0.50	1		06/14/16 21:15	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		06/14/16 21:15	10061-01-5	
m&p-Xylene	1.5	ug/L	1.0	0.50	1		06/14/16 21:15	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 21:15	103-65-1	
o-Xylene	0.97	ug/L	0.50	0.11	1		06/14/16 21:15	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		06/14/16 21:15	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		06/14/16 21:15	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		06/14/16 21:15	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		06/14/16 21:15	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 21:15	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 21:15	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		06/14/16 21:15	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		06/14/16 21:15	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		06/14/16 21:15	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		06/14/16 21:15	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		06/14/16 21:15	460-00-4	
8260B MSV Low Level Analytical Method: EPA 8260B									
2,2,4-Trimethylpentane	<0.21	ug/L	4.0	0.21	1		06/17/16 01:44	540-84-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		06/17/16 01:44	17060-07-0	
Toluene-d8 (S)	87	%	75-125		1		06/17/16 01:44	2037-26-5	
4-Bromofluorobenzene (S)	93	%	75-125		1		06/17/16 01:44	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **MW3-1606** Lab ID: **1268229005** Collected: 06/13/16 10:30 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		06/14/16 23:55	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/14/16 23:55	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		06/14/16 23:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		06/14/16 23:55	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		06/14/16 23:55	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		06/14/16 23:55	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		06/14/16 23:55	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		06/14/16 23:55	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		06/14/16 23:55	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:55	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		06/14/16 23:55	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:55	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		06/14/16 23:55	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		06/14/16 23:55	123-91-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		06/14/16 23:55	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		06/14/16 23:55	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		06/14/16 23:55	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		06/14/16 23:55	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		06/14/16 23:55	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		06/14/16 23:55	108-10-1	
Acetone	3.5J	ug/L	10.0	1.7	1		06/14/16 23:55	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		06/14/16 23:55	107-02-8	L3
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		06/14/16 23:55	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		06/14/16 23:55	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		06/14/16 23:55	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		06/14/16 23:55	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		06/14/16 23:55	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		06/14/16 23:55	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		06/14/16 23:55	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		06/14/16 23:55	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		06/14/16 23:55	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		06/14/16 23:55	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:55	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **MW3-1606** Lab ID: **1268229005** Collected: 06/13/16 10:30 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water									
Analytical Method: EPA 8260B									
Dibromomethane	<0.13	ug/L	0.50	0.13	1		06/14/16 23:55	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		06/14/16 23:55	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		06/14/16 23:55	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		06/14/16 23:55	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		06/14/16 23:55	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		06/14/16 23:55	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		06/14/16 23:55	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		06/14/16 23:55	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		06/14/16 23:55	75-09-2	
Naphthalene	0.088J	ug/L	0.50	0.068	1		06/14/16 23:55	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		06/14/16 23:55	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		06/14/16 23:55	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:55	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		06/14/16 23:55	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		06/14/16 23:55	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		06/14/16 23:55	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		06/14/16 23:55	10061-01-5	
m&p-Xylene	0.71J	ug/L	1.0	0.50	1		06/14/16 23:55	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		06/14/16 23:55	103-65-1	
o-Xylene	0.43J	ug/L	0.50	0.11	1		06/14/16 23:55	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		06/14/16 23:55	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		06/14/16 23:55	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		06/14/16 23:55	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		06/14/16 23:55	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/14/16 23:55	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		06/14/16 23:55	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		06/14/16 23:55	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		06/14/16 23:55	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%	70-130		1		06/14/16 23:55	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/14/16 23:55	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		06/14/16 23:55	460-00-4	
8260B MSV Low Level									
Analytical Method: EPA 8260B									
2,2,4-Trimethylpentane	<0.21	ug/L	4.0	0.21	1		06/17/16 04:45	540-84-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		06/17/16 04:45	17060-07-0	
Toluene-d8 (S)	87	%	75-125		1		06/17/16 04:45	2037-26-5	
4-Bromofluorobenzene (S)	94	%	75-125		1		06/17/16 04:45	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **FD-1606** Lab ID: **1268229006** Collected: 06/13/16 17:00 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		06/15/16 00:15	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		06/15/16 00:15	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		06/15/16 00:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		06/15/16 00:15	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		06/15/16 00:15	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		06/15/16 00:15	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		06/15/16 00:15	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		06/15/16 00:15	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		06/15/16 00:15	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		06/15/16 00:15	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		06/15/16 00:15	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		06/15/16 00:15	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		06/15/16 00:15	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		06/15/16 00:15	123-91-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		06/15/16 00:15	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		06/15/16 00:15	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		06/15/16 00:15	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		06/15/16 00:15	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		06/15/16 00:15	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		06/15/16 00:15	108-10-1	
Acetone	6.7J	ug/L	10.0	1.7	1		06/15/16 00:15	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		06/15/16 00:15	107-02-8	L3
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		06/15/16 00:15	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		06/15/16 00:15	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		06/15/16 00:15	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		06/15/16 00:15	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		06/15/16 00:15	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		06/15/16 00:15	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		06/15/16 00:15	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		06/15/16 00:15	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		06/15/16 00:15	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		06/15/16 00:15	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		06/15/16 00:15	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1268229

Sample: **FD-1606** Lab ID: **1268229006** Collected: 06/13/16 17:00 Received: 06/14/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromomethane	<0.13	ug/L	0.50	0.13	1		06/15/16 00:15	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		06/15/16 00:15	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		06/15/16 00:15	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		06/15/16 00:15	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		06/15/16 00:15	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		06/15/16 00:15	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		06/15/16 00:15	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		06/15/16 00:15	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		06/15/16 00:15	75-09-2	
Naphthalene	0.091J	ug/L	0.50	0.068	1		06/15/16 00:15	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		06/15/16 00:15	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		06/15/16 00:15	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		06/15/16 00:15	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		06/15/16 00:15	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		06/15/16 00:15	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		06/15/16 00:15	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		06/15/16 00:15	10061-01-5	
m&p-Xylene	0.58J	ug/L	1.0	0.50	1		06/15/16 00:15	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		06/15/16 00:15	103-65-1	
o-Xylene	0.45J	ug/L	0.50	0.11	1		06/15/16 00:15	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		06/15/16 00:15	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		06/15/16 00:15	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		06/15/16 00:15	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		06/15/16 00:15	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		06/15/16 00:15	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		06/15/16 00:15	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		06/15/16 00:15	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		06/15/16 00:15	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	70-130		1		06/15/16 00:15	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/15/16 00:15	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		06/15/16 00:15	460-00-4	
8260B MSV Low Level		Analytical Method: EPA 8260B							
2,2,4-Trimethylpentane	<0.21	ug/L	4.0	0.21	1		06/17/16 05:07	540-84-1	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		06/17/16 05:07	17060-07-0	
Toluene-d8 (S)	85	%	75-125		1		06/17/16 05:07	2037-26-5	
4-Bromofluorobenzene (S)	93	%	75-125		1		06/17/16 05:07	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

QC Batch: DAVM/3950 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Med Water
 Associated Lab Samples: 1268229001, 1268229002, 1268229003, 1268229004, 1268229005, 1268229006

METHOD BLANK: 329982 Matrix: Water
 Associated Lab Samples: 1268229001, 1268229002, 1268229003, 1268229004, 1268229005, 1268229006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	0.50	0.082	06/14/16 20:55	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	06/14/16 20:55	
1,1,2,2-Tetrachloroethane	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
1,1,2-Trichloroethane	ug/L	<0.15	0.50	0.15	06/14/16 20:55	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
1,1-Dichloroethane	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
1,1-Dichloroethene	ug/L	<0.18	0.50	0.18	06/14/16 20:55	
1,1-Dichloropropene	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
1,2,3-Trichlorobenzene	ug/L	<0.10	0.50	0.10	06/14/16 20:55	
1,2,3-Trichloropropane	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
1,2,4-Trichlorobenzene	ug/L	<0.096	0.50	0.096	06/14/16 20:55	
1,2,4-Trimethylbenzene	ug/L	<0.078	0.50	0.078	06/14/16 20:55	
1,2-Dibromo-3-chloropropane	ug/L	<0.25	2.0	0.25	06/14/16 20:55	
1,2-Dibromoethane (EDB)	ug/L	<0.10	0.50	0.10	06/14/16 20:55	
1,2-Dichlorobenzene	ug/L	<0.11	0.50	0.11	06/14/16 20:55	
1,2-Dichloroethane	ug/L	<0.10	0.50	0.10	06/14/16 20:55	
1,2-Dichloroethene (Total)	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
1,2-Dichloropropane	ug/L	<0.13	0.50	0.13	06/14/16 20:55	
1,3,5-Trimethylbenzene	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
1,3-Dichlorobenzene	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
1,3-Dichloropropane	ug/L	<0.084	0.50	0.084	06/14/16 20:55	
1,4-Dichlorobenzene	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
1,4-Dioxane (p-Dioxane)	ug/L	<2.4	40.0	2.4	06/14/16 20:55	
2,2-Dichloropropane	ug/L	<0.13	2.0	0.13	06/14/16 20:55	
2-Butanone (MEK)	ug/L	<0.45	5.0	0.45	06/14/16 20:55	
2-Chlorotoluene	ug/L	<0.20	1.0	0.20	06/14/16 20:55	
2-Hexanone	ug/L	<0.35	5.0	0.35	06/14/16 20:55	
4-Chlorotoluene	ug/L	<0.088	1.0	0.088	06/14/16 20:55	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.32	5.0	0.32	06/14/16 20:55	
Acetone	ug/L	<1.7	10.0	1.7	06/14/16 20:55	
Acrolein	ug/L	<0.93	5.0	0.93	06/14/16 20:55	
Acrylonitrile	ug/L	<2.0	5.0	2.0	06/14/16 20:55	
Benzene	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
Bromobenzene	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
Bromochloromethane	ug/L	<0.17	0.50	0.17	06/14/16 20:55	
Bromodichloromethane	ug/L	<0.098	0.50	0.098	06/14/16 20:55	
Bromoform	ug/L	<0.18	0.50	0.18	06/14/16 20:55	
Bromomethane	ug/L	<0.25	20.0	0.25	06/14/16 20:55	
Carbon disulfide	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
Carbon tetrachloride	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
Chlorobenzene	ug/L	<0.14	0.50	0.14	06/14/16 20:55	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

METHOD BLANK: 329982

Matrix: Water

Associated Lab Samples: 1268229001, 1268229002, 1268229003, 1268229004, 1268229005, 1268229006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorodifluoromethane	ug/L	<0.18	5.0	0.18	06/14/16 20:55	
Chloroethane	ug/L	<0.27	2.0	0.27	06/14/16 20:55	
Chloroform	ug/L	<0.098	0.50	0.098	06/14/16 20:55	
Chloromethane	ug/L	<0.15	2.0	0.15	06/14/16 20:55	
cis-1,2-Dichloroethene	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
cis-1,3-Dichloropropene	ug/L	<0.081	0.50	0.081	06/14/16 20:55	
Dibromochloromethane	ug/L	<0.13	0.50	0.13	06/14/16 20:55	
Dibromomethane	ug/L	<0.13	0.50	0.13	06/14/16 20:55	
Dichlorodifluoromethane	ug/L	<0.16	0.50	0.16	06/14/16 20:55	
Dichlorofluoromethane	ug/L	<0.14	0.50	0.14	06/14/16 20:55	
Diisopropyl ether	ug/L	<0.080	0.50	0.080	06/14/16 20:55	
Ethyl-tert-butyl ether	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
Ethylbenzene	ug/L	<0.098	0.50	0.098	06/14/16 20:55	
Hexachloro-1,3-butadiene	ug/L	<0.13	0.50	0.13	06/14/16 20:55	
Isopropylbenzene (Cumene)	ug/L	<0.094	0.50	0.094	06/14/16 20:55	
m&p-Xylene	ug/L	<0.50	1.0	0.50	06/14/16 20:55	
Methyl-tert-butyl ether	ug/L	<0.086	0.50	0.086	06/14/16 20:55	
Methylene Chloride	ug/L	<0.11	5.0	0.11	06/14/16 20:55	
n-Butylbenzene	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
n-Propylbenzene	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
Naphthalene	ug/L	0.12J	0.50	0.068	06/14/16 20:55	
o-Xylene	ug/L	<0.11	0.50	0.11	06/14/16 20:55	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	06/14/16 20:55	
sec-Butylbenzene	ug/L	<0.064	0.50	0.064	06/14/16 20:55	
Styrene	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
tert-Amylmethyl ether	ug/L	<0.059	0.50	0.059	06/14/16 20:55	
tert-Butyl Alcohol	ug/L	<2.0	5.0	2.0	06/14/16 20:55	
tert-Butylbenzene	ug/L	<0.19	0.50	0.19	06/14/16 20:55	
Tetrachloroethene	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
Tetrahydrofuran	ug/L	<1.7	5.0	1.7	06/14/16 20:55	
Toluene	ug/L	<0.10	0.50	0.10	06/14/16 20:55	
trans-1,2-Dichloroethene	ug/L	<0.11	0.50	0.11	06/14/16 20:55	
trans-1,3-Dichloropropene	ug/L	<0.089	0.50	0.089	06/14/16 20:55	
trans-1,4-Dichloro-2-butene	ug/L	<0.30	5.0	0.30	06/14/16 20:55	
Trichloroethene	ug/L	<0.11	0.50	0.11	06/14/16 20:55	
Trichlorofluoromethane	ug/L	<0.12	0.50	0.12	06/14/16 20:55	
Vinyl acetate	ug/L	<0.28	5.0	0.28	06/14/16 20:55	
Vinyl chloride	ug/L	<0.20	0.50	0.20	06/14/16 20:55	
Xylene (Total)	ug/L	<0.50	1.5	0.50	06/14/16 20:55	
1,2-Dichloroethane-d4 (S)	%	89	70-130		06/14/16 20:55	
4-Bromofluorobenzene (S)	%	96	70-130		06/14/16 20:55	
Toluene-d8 (S)	%	101	70-130		06/14/16 20:55	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

LABORATORY CONTROL SAMPLE: 329983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	40	38.4	96	72-134	
1,1,1-Trichloroethane	ug/L	40	33.2	83	67-138	
1,1,2,2-Tetrachloroethane	ug/L	40	40.7	102	75-125	
1,1,2-Trichloroethane	ug/L	40	38.9	97	75-126	
1,1,2-Trichlorotrifluoroethane	ug/L	40	37.1	93	74-127	
1,1-Dichloroethane	ug/L	40	36.7	92	71-131	
1,1-Dichloroethene	ug/L	40	35.9	90	74-126	
1,1-Dichloropropene	ug/L	40	36.4	91	73-126	
1,2,3-Trichlorobenzene	ug/L	40	36.9	92	75-125	
1,2,3-Trichloropropane	ug/L	40	37.8	94	74-126	
1,2,4-Trichlorobenzene	ug/L	40	36.5	91	75-127	
1,2,4-Trimethylbenzene	ug/L	40	36.7	92	75-127	
1,2-Dibromo-3-chloropropane	ug/L	100	99.3	99	51-150	
1,2-Dibromoethane (EDB)	ug/L	40	39.1	98	74-128	
1,2-Dichlorobenzene	ug/L	40	35.7	89	75-125	
1,2-Dichloroethane	ug/L	40	33.2	83	64-141	
1,2-Dichloroethene (Total)	ug/L	80	75.6	94	70-130	
1,2-Dichloropropane	ug/L	40	40.2	101	73-127	
1,3,5-Trimethylbenzene	ug/L	40	35.9	90	75-127	
1,3-Dichlorobenzene	ug/L	40	34.2	85	75-125	
1,3-Dichloropropane	ug/L	40	38.9	97	73-129	
1,4-Dichlorobenzene	ug/L	40	34.5	86	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	800	682	85	70-130	
2,2-Dichloropropane	ug/L	40	33.3	83	49-150	
2-Butanone (MEK)	ug/L	200	213	107	61-144	
2-Chlorotoluene	ug/L	40	36.6	91	75-125	
2-Hexanone	ug/L	200	204	102	64-144	
4-Chlorotoluene	ug/L	40	36.2	91	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	200	207	104	67-140	
Acetone	ug/L	200	198	99	56-140	
Acrolein	ug/L	400	620	155	70-130	LO
Acrylonitrile	ug/L	400	423	106	70-130	
Benzene	ug/L	40	35.7	89	75-125	
Bromobenzene	ug/L	40	36.7	92	75-125	
Bromochloromethane	ug/L	40	38.3	96	75-126	
Bromodichloromethane	ug/L	40	37.1	93	70-134	
Bromoform	ug/L	40	37.7	94	68-130	
Bromomethane	ug/L	40	31.7	79	30-150	
Carbon disulfide	ug/L	40	38.3	96	75-125	
Carbon tetrachloride	ug/L	40	33.9	85	66-135	
Chlorobenzene	ug/L	40	37.1	93	75-125	
Chlorodifluoromethane	ug/L	40	34.8	87	70-130	
Chloroethane	ug/L	40	37.2	93	55-150	
Chloroform	ug/L	40	35.3	88	72-131	
Chloromethane	ug/L	40	33.8	84	54-132	
cis-1,2-Dichloroethene	ug/L	40	37.6	94	75-125	
cis-1,3-Dichloropropene	ug/L	40	40.7	102	74-130	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

LABORATORY CONTROL SAMPLE: 329983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	40	37.6	94	70-132	
Dibromomethane	ug/L	40	37.6	94	72-135	
Dichlorodifluoromethane	ug/L	40	29.5	74	41-150	
Dichlorofluoromethane	ug/L	40	34.1	85	70-130	
Diisopropyl ether	ug/L	40	39.1	98	75-126	
Ethyl-tert-butyl ether	ug/L	40	38.9	97	75-125	
Ethylbenzene	ug/L	40	36.9	92	75-125	
Hexachloro-1,3-butadiene	ug/L	40	34.1	85	75-131	
Isopropylbenzene (Cumene)	ug/L	40	36.8	92	75-125	
m&p-Xylene	ug/L	80	75.3	94	75-125	
Methyl-tert-butyl ether	ug/L	40	37.4	94	73-125	
Methylene Chloride	ug/L	40	38.6	97	68-125	
n-Butylbenzene	ug/L	40	36.4	91	68-134	
n-Propylbenzene	ug/L	40	36.2	91	75-128	
Naphthalene	ug/L	40	41.1	103	69-128	
o-Xylene	ug/L	40	36.8	92	75-125	
p-Isopropyltoluene	ug/L	40	36.3	91	75-130	
sec-Butylbenzene	ug/L	40	36.2	91	75-125	
Styrene	ug/L	40	38.3	96	75-125	
tert-Amylmethyl ether	ug/L	40	37.6	94	75-125	
tert-Butyl Alcohol	ug/L	400	359	90	75-125	
tert-Butylbenzene	ug/L	40	37.0	93	75-129	
Tetrachloroethene	ug/L	40	34.6	86	75-130	
Tetrahydrofuran	ug/L	400	426	107	70-130	
Toluene	ug/L	40	37.0	93	75-125	
trans-1,2-Dichloroethene	ug/L	40	36.7	92	75-125	
trans-1,3-Dichloropropene	ug/L	40	38.0	95	69-137	
trans-1,4-Dichloro-2-butene	ug/L	100	89.0	89	70-130	
Trichloroethene	ug/L	40	35.4	88	75-125	
Trichlorofluoromethane	ug/L	40	33.0	82	59-140	
Vinyl acetate	ug/L	40	45.6	114	75-125	
Vinyl chloride	ug/L	40	34.8	87	68-132	
Xylene (Total)	ug/L	120	112	93	75-125	
1,2-Dichloroethane-d4 (S)	%			89	70-130	
4-Bromofluorobenzene (S)	%			97	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 329984 329985

Parameter	Units	1268229004		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	Result	MSD Result	% Rec	% Rec					
1,1,1,2-Tetrachloroethane	ug/L	<0.082	40	40	36.8	37.4	92	94	66-141	2	30		
1,1,1-Trichloroethane	ug/L	<0.14	40	40	32.3	32.5	81	81	63-142	1	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.12	40	40	40.5	39.9	101	100	75-125	2	30		
1,1,2-Trichloroethane	ug/L	<0.15	40	40	40.1	39.7	100	99	75-132	1	30		

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		329984		329985									
Parameter	Units	1268229004	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	RPD	RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits				
1,1,2-Trichlorotrifluoroethane	ug/L	<0.19	40	40	36.5	35.9	91	90	67-134	2	30		
1,1-Dichloroethane	ug/L	<0.12	40	40	36.6	36.0	92	90	75-126	2	30		
1,1-Dichloroethene	ug/L	<0.18	40	40	35.7	35.3	89	88	75-125	1	30		
1,1-Dichloropropene	ug/L	<0.19	40	40	36.3	35.4	91	88	69-129	3	30		
1,2,3-Trichlorobenzene	ug/L	<0.10	40	40	36.5	35.2	91	88	74-125	3	30		
1,2,3-Trichloropropane	ug/L	<0.20	40	40	38.0	37.3	95	93	74-126	2	30		
1,2,4-Trichlorobenzene	ug/L	<0.096	40	40	35.5	35.0	89	87	66-131	2	30		
1,2,4-Trimethylbenzene	ug/L	<0.078	40	40	36.6	35.7	91	89	75-128	2	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.25	100	100	97.0	96.7	97	97	41-150	0	30		
1,2-Dibromoethane (EDB)	ug/L	<0.10	40	40	40.1	39.0	100	97	75-126	3	30		
1,2-Dichlorobenzene	ug/L	<0.11	40	40	35.0	34.4	87	86	75-125	2	30		
1,2-Dichloroethane	ug/L	0.38J	40	40	33.8	33.4	83	83	75-137	1	30		
1,2-Dichloroethene (Total)	ug/L	<0.19	80	80	76.3	75.2	95	94	70-130	1	30		
1,2-Dichloropropane	ug/L	<0.13	40	40	39.1	39.0	98	98	74-131	0	30		
1,3,5-Trimethylbenzene	ug/L	<0.20	40	40	35.3	34.9	88	87	75-129	1	30		
1,3-Dichlorobenzene	ug/L	<0.20	40	40	33.7	33.5	84	84	75-126	1	30		
1,3-Dichloropropane	ug/L	<0.084	40	40	39.1	38.9	98	97	71-130	1	30		
1,4-Dichlorobenzene	ug/L	<0.12	40	40	33.1	32.3	83	81	73-125	2	30		
1,4-Dioxane (p-Dioxane)	ug/L	<2.4	800	800	711	692	89	86	61-133	3	30		
2,2-Dichloropropane	ug/L	<0.13	40	40	33.1	32.5	83	81	45-151	2	30		
2-Butanone (MEK)	ug/L	<0.45	200	200	214	207	107	103	57-143	3	30		
2-Chlorotoluene	ug/L	<0.20	40	40	35.4	35.5	88	89	75-126	0	30		
2-Hexanone	ug/L	<0.35	200	200	207	202	104	101	70-147	3	30		
4-Chlorotoluene	ug/L	<0.088	40	40	36.3	35.7	91	89	75-126	2	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.32	200	200	208	205	104	102	70-145	2	30		
Acetone	ug/L	5.0J	200	200	201	191	98	93	60-141	5	30		
Acrolein	ug/L	<0.93	400	400	624	602	156	150	70-130	4	30	M0	
Acrylonitrile	ug/L	<2.0	400	400	432	417	108	104	70-130	3	30		
Benzene	ug/L	<0.12	40	40	35.7	35.3	89	88	75-125	1	30		
Bromobenzene	ug/L	<0.12	40	40	36.0	35.3	90	88	75-125	2	30		
Bromochloromethane	ug/L	<0.17	40	40	38.9	39.3	97	98	75-126	1	30		
Bromodichloromethane	ug/L	<0.098	40	40	36.7	36.1	92	90	65-137	2	30		
Bromoform	ug/L	<0.18	40	40	37.2	37.6	93	94	60-147	1	30		
Bromomethane	ug/L	<0.25	40	40	34.2	34.8	86	87	30-150	2	30		
Carbon disulfide	ug/L	<0.20	40	40	37.8	36.9	95	92	62-130	2	30		
Carbon tetrachloride	ug/L	181	40	40	205	201	59	48	45-150	2	30	E	
Chlorobenzene	ug/L	<0.14	40	40	35.8	35.9	89	90	75-125	0	30		
Chlorodifluoromethane	ug/L	<0.18	40	40	34.8	33.7	87	84	70-130	3	30		
Chloroethane	ug/L	<0.27	40	40	37.9	36.0	95	90	66-145	5	30		
Chloroform	ug/L	60.0	40	40	91.0	89.5	78	74	74-128	2	30		
Chloromethane	ug/L	<0.15	40	40	33.4	32.0	83	80	51-150	4	30		
cis-1,2-Dichloroethene	ug/L	<0.19	40	40	38.2	37.4	95	94	75-125	2	30		
cis-1,3-Dichloropropene	ug/L	<0.081	40	40	41.0	40.7	102	102	75-129	1	30		
Dibromochloromethane	ug/L	<0.13	40	40	38.2	38.3	96	96	66-141	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

Parameter	Units	1268229004		329984		329985		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Dibromomethane	ug/L	<0.13	40	40	38.6	37.8	96	95	73-139	2	30		
Dichlorodifluoromethane	ug/L	<0.16	40	40	28.2	28.5	71	71	36-149	1	30		
Dichlorofluoromethane	ug/L	<0.14	40	40	33.6	33.4	84	83	70-130	1	30		
Diisopropyl ether	ug/L	<0.080	40	40	39.3	39.3	98	98	75-130	0	30		
Ethyl-tert-butyl ether	ug/L	<0.19	40	40	39.2	39.3	98	98	73-128	0	30		
Ethylbenzene	ug/L	0.33J	40	40	36.0	35.7	89	88	74-125	1	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	40	40	33.7	32.0	84	80	64-134	5	30		
Isopropylbenzene (Cumene)	ug/L	<0.094	40	40	36.1	35.6	90	89	75-127	1	30		
m&p-Xylene	ug/L	1.5	80	80	74.1	73.9	91	90	63-130	0	30		
Methyl-tert-butyl ether	ug/L	<0.086	40	40	37.9	37.4	95	94	73-129	1	30		
Methylene Chloride	ug/L	<0.11	40	40	38.5	36.8	96	92	74-125	5	30		
n-Butylbenzene	ug/L	<0.19	40	40	35.4	34.3	89	86	58-132	3	30		
n-Propylbenzene	ug/L	<0.20	40	40	35.4	34.9	88	87	75-128	1	30		
Naphthalene	ug/L	0.13J	40	40	40.9	40.2	102	100	60-133	2	30		
o-Xylene	ug/L	0.97	40	40	36.8	36.1	90	88	66-129	2	30		
p-Isopropyltoluene	ug/L	<0.064	40	40	35.3	34.5	88	86	70-132	2	30		
sec-Butylbenzene	ug/L	<0.064	40	40	35.4	35.0	89	87	70-130	1	30		
Styrene	ug/L	<0.20	40	40	37.4	36.8	93	92	71-127	2	30		
tert-Amylmethyl ether	ug/L	<0.059	40	40	37.0	36.6	93	92	75-126	1	30		
tert-Butyl Alcohol	ug/L	<2.0	400	400	358	341	90	85	65-128	5	30		
tert-Butylbenzene	ug/L	<0.19	40	40	35.8	35.1	89	88	75-128	2	30		
Tetrachloroethene	ug/L	<0.12	40	40	34.5	34.4	86	86	75-135	0	30		
Tetrahydrofuran	ug/L	<1.7	400	400	424	407	106	102	68-147	4	30		
Toluene	ug/L	<0.10	40	40	36.7	36.7	92	92	75-125	0	30		
trans-1,2-Dichloroethene	ug/L	<0.11	40	40	35.2	35.7	88	89	75-125	1	30		
trans-1,3-Dichloropropene	ug/L	<0.089	40	40	38.1	37.8	95	94	67-139	1	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.30	100	100	88.5	86.2	89	86	70-130	3	30		
Trichloroethene	ug/L	<0.11	40	40	35.4	34.6	88	87	75-130	2	30		
Trichlorofluoromethane	ug/L	<0.12	40	40	32.3	32.1	81	80	57-144	1	30		
Vinyl acetate	ug/L	<0.28	40	40	40.5	40.7	101	102	73-130	0	30		
Vinyl chloride	ug/L	<0.20	40	40	34.3	33.8	86	85	70-136	1	30		
Xylene (Total)	ug/L	2.5	120	120	111	110	90	90	61-129	1	30		
1,2-Dichloroethane-d4 (S)	%						91	91	70-130				
4-Bromofluorobenzene (S)	%						97	98	70-130				
Toluene-d8 (S)	%						101	101	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman
Pace Project No.: 1268229

QC Batch: DAVM/3979 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Med Water
Associated Lab Samples: 1268229003

METHOD BLANK: 332445 Matrix: Water
Associated Lab Samples: 1268229003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Carbon tetrachloride	ug/L	<0.12	0.50	0.12	06/20/16 17:38	
1,2-Dichloroethane-d4 (S)	%.	94	70-130		06/20/16 17:38	
4-Bromofluorobenzene (S)	%.	93	70-130		06/20/16 17:38	
Toluene-d8 (S)	%.	101	70-130		06/20/16 17:38	

LABORATORY CONTROL SAMPLE: 332446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	40	34.1	85	66-135	
1,2-Dichloroethane-d4 (S)	%.			94	70-130	
4-Bromofluorobenzene (S)	%.			96	70-130	
Toluene-d8 (S)	%.			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 332447 332448

Parameter	Units	1268626001		332448		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Carbon tetrachloride	ug/L	ND	40	40	34.3	34.3	86	86	45-150	0	30
1,2-Dichloroethane-d4 (S)	%.						93	94	70-130		
4-Bromofluorobenzene (S)	%.						93	94	70-130		
Toluene-d8 (S)	%.						100	100	70-130		

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1268229

QC Batch: MSV/35948 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
 Associated Lab Samples: 1268229001, 1268229002, 1268229003, 1268229004, 1268229005, 1268229006

METHOD BLANK: 2287396 Matrix: Water
 Associated Lab Samples: 1268229001, 1268229002, 1268229003, 1268229004, 1268229005, 1268229006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2,2,4-Trimethylpentane	ug/L	<0.21	4.0	0.21	06/16/16 23:52	
1,2-Dichloroethane-d4 (S)	%	94	75-125		06/16/16 23:52	
4-Bromofluorobenzene (S)	%	93	75-125		06/16/16 23:52	
Toluene-d8 (S)	%	84	75-125		06/16/16 23:52	

LABORATORY CONTROL SAMPLE: 2287397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2,4-Trimethylpentane	ug/L	15000	15400	103	67-138	
1,2-Dichloroethane-d4 (S)	%			97	75-125	
4-Bromofluorobenzene (S)	%			91	75-125	
Toluene-d8 (S)	%			85	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2287398 2287399

Parameter	Units	1268229004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
2,2,4-Trimethylpentane	ug/L	<0.21	20	20	20.9	19.2	105	96	30-150	9	30
1,2-Dichloroethane-d4 (S)	%						99	99	75-125		
4-Bromofluorobenzene (S)	%						94	95	75-125		
Toluene-d8 (S)	%						85	86	75-125		

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QUALIFIERS

Project: UPRR_Freeman
Pace Project No.: 1268229

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis
PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: DAVM/3950

[1] The initial and continuing calibration checks for acrolein are above Pace Analytical acceptance limits. Acrolein is not present above the reporting limit in the associated samples. Results are unaffected by high bias.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.
E Analyte concentration exceeded the calibration range. The reported result is estimated.
L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: UPRR_Freeman

Pace Project No.: 1268229

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1268229001	Trip Blank	EPA 8260B	DAVM/3950		
1268229002	SB03-1606	EPA 8260B	DAVM/3950		
1268229003	SB04-1606	EPA 8260B	DAVM/3950		
1268229003	SB04-1606	EPA 8260B	DAVM/3979		
1268229004	SB05-1606	EPA 8260B	DAVM/3950		
1268229005	MW3-1606	EPA 8260B	DAVM/3950		
1268229006	FD-1606	EPA 8260B	DAVM/3950		
1268229001	Trip Blank	EPA 8260B	MSV/35948		
1268229002	SB03-1606	EPA 8260B	MSV/35948		
1268229003	SB04-1606	EPA 8260B	MSV/35948		
1268229004	SB05-1606	EPA 8260B	MSV/35948		
1268229005	MW3-1606	EPA 8260B	MSV/35948		
1268229006	FD-1606	EPA 8260B	MSV/35948		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Sample Condition Upon Receipt Form	Document Revised: 25Feb2015 Page 1 of 1
	Document No.: F-DAV-C-002-rev.02	Issuing Authority: Pace Davis, CA Quality Office

Sample Condition Upon Receipt **Client Name:** CH2M **Project #:** **WO# : 1268229**

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other: N/A

Tracking Number: 6662 9805 7770



Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: N/A **Temp Blank?** Yes No

Thermom. Used: DA1434 DA2285 **Type of Ice:** Wet Blue Dry Ice None Samples on ice, cooling process has begun

Cooler Temp Read(°C): 4.6 **Cooler Temp Corrected(°C):** 5.0 **Biological Tissue Frozen?** Yes No N/A
Temp should be above freezing to 6°C **Correction Factor:** +0.4 **Date and Initials of Person Examining Contents:** GAR 06/14/16

			Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	5 DAY TAT
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	Sample (CO4) = Lab QC
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	per COC.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH >12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Sample #	
Initial when completed:		Lot # of added preservative:	
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS **Date:** 06/14/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

10352048



Workorder: 1268229

Workorder Name:UPRR_Freeman

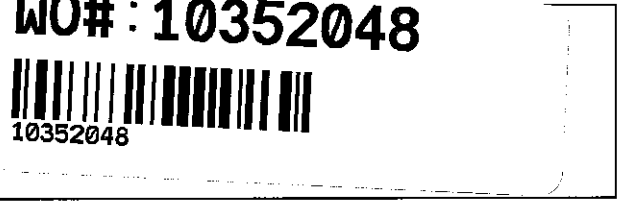
Owner Received Date: 6/14/2016

Results Requested By: 6/21/2016

Report To		Subcontract To					Requested Analysis										LAB USE ONLY	
Jennifer Gross Pace Analytical Davis 2795 Second Street Suite 300 Davis, CA 95618 Phone (530) 297-4800		Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612) 607-1700																
PROFILE # 35006 / 7																		
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers										LAB USE ONLY		
						HCL												
1	Trip Blank	PS	6/13/2016 08:00	1268229001	Water	2											001	
2	SB03-1606	PS	6/13/2016 09:30	1268229002	Water	3											002	
3	SB04-1606	PS	6/13/2016 12:40	1268229003	Water	3											003	
4	SB05-1606	RQS	6/13/2016 11:55	1268229004	Water	6											004	
5	MW3-1606	PS	6/13/2016 10:30	1268229005	Water	3											005	
6	FD-1606	PS	6/13/2016 17:00	1268229006	Water	1											006	
Transfers												Comments						
Released By	Date/Time	Received By	Date/Time	Limited volume for FD-1606														
<i>[Signature]</i>	06/14/16/15:10	<i>[Signature]</i>	6/15/16/10:00															
Cooler Temperature on Receipt		Custody Seal		Received on Ice		Samples Intact												
4.5°C		Y or N		Y or N		Y or N												

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt **Client Name:** Pace CA **Project #:** **WO# : 10352048**
Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
Tracking Number: 7765 2101 4568



Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____
Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No
Thermometer Used: 181401163 B88A912167504 151401164 B88A0143310098 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun
Cooler Temp Read (°C): 2.3 **Cooler Temp Corrected (°C):** 2.5 **Biological Tissue Frozen?** Yes No N/A
Temp should be above freezing to 6°C **Correction Factor:** +0.2 **Date and Initials of Person Examining Contents:** 6/15/16

USDA Regulated Soil (N/A, water sample)
Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>NA</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl >2; NaOH >9 Sulfide, NaOH >12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (Water) DOC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No
Person Contacted: _____ Date/Time: _____
Comments/Resolution: _____

Project Manager Review: Low Eater **Date:** 6/15/16
Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

August 10, 2016

Mark Ochsner
CH2M Hill
2020 SW 4th Avenue
Portland, OR 97201

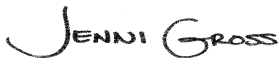
RE: Project: 661508.10.02.30 UPRR Freeman
Pace Project No.: 1272259

Dear Mark Ochsner:

Enclosed are the analytical results for sample(s) received by the laboratory on August 09, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618

North Dakota Certification #: R-214

Oregon Certification #: CA300002

Washington Certification #: C926-15a

California Certification #: 08263CA

Minnesota Department of Health Certification #: 006-999-465

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SAMPLE SUMMARY

Project: 661508.10.02.30 UPRR Freeman
Pace Project No.: 1272259

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1272259001	MW2S-1608	Water	08/03/16 18:15	08/09/16 12:15
1272259002	MW20FD-1608	Water	08/03/16 12:00	08/09/16 12:15
1272259003	MW5-1608	Water	08/03/16 20:20	08/09/16 12:15
1272259004	TRIP BLANK	Water	08/03/16 09:30	08/09/16 12:15
1272259005	MW1S-1608	Water	08/04/16 08:20	08/09/16 12:15
1272259006	MW1D-1608	Water	08/04/16 08:50	08/09/16 12:15
1272259007	MW6S-1608	Water	08/04/16 10:40	08/09/16 12:15
1272259008	MW10-1608	Water	08/04/16 11:10	08/09/16 12:15
1272259009	MW12-1608	Water	08/04/16 11:45	08/09/16 12:15
1272259010	EB-01	Water	08/04/16 12:15	08/09/16 12:15
1272259011	MW4-1608	Water	08/04/16 15:10	08/09/16 12:15
1272259012	MW40FD-1608	Water	08/04/16 08:00	08/09/16 12:15
1272259013	MW11-1608	Water	08/04/16 17:15	08/09/16 12:15
1272259014	MW30FD-1608	Water	08/04/16 08:00	08/09/16 12:15
1272259015	W20-1608	Water	08/04/16 18:50	08/09/16 12:15
1272259016	W26-1608	Water	08/04/16 20:10	08/09/16 12:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1272259001	MW2S-1608	EPA 8260B	JCP	84	PASI-DAV
1272259002	MW20FD-1608	EPA 8260B	JCP	84	PASI-DAV
1272259003	MW5-1608	EPA 8260B	JCP	84	PASI-DAV
1272259004	TRIP BLANK	EPA 8260B	JCP	84	PASI-DAV
1272259005	MW1S-1608	EPA 8260B	JCP	84	PASI-DAV
1272259006	MW1D-1608	EPA 8260B	JCP	84	PASI-DAV
1272259007	MW6S-1608	EPA 8260B	JCP	84	PASI-DAV
1272259008	MW10-1608	EPA 8260B	JCP	84	PASI-DAV
1272259009	MW12-1608	EPA 8260B	JCP	84	PASI-DAV
1272259010	EB-01	EPA 8260B	JCP	84	PASI-DAV
1272259011	MW4-1608	EPA 8260B	JCP	84	PASI-DAV
1272259012	MW40FD-1608	EPA 8260B	JCP	84	PASI-DAV
1272259013	MW11-1608	EPA 8260B	JCP	84	PASI-DAV
1272259014	MW30FD-1608	EPA 8260B	JCP	84	PASI-DAV
1272259015	W20-1608	EPA 8260B	JCP	84	PASI-DAV
1272259016	W26-1608	EPA 8260B	JCP	84	PASI-DAV

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
1272259001	MW2S-1608					
EPA 8260B	1,3,5-Trimethylbenzene	0.29J	ug/L	0.50	08/09/16 19:24	
EPA 8260B	Acetone	21.6	ug/L	10.0	08/09/16 19:24	
EPA 8260B	Benzene	0.68	ug/L	0.50	08/09/16 19:24	
EPA 8260B	Ethylbenzene	0.45J	ug/L	0.50	08/09/16 19:24	
EPA 8260B	Methylene Chloride	0.58J	ug/L	5.0	08/09/16 19:24	
EPA 8260B	Naphthalene	0.21J	ug/L	0.50	08/09/16 19:24	
EPA 8260B	Toluene	1.1	ug/L	0.50	08/09/16 19:24	
EPA 8260B	Xylene (Total)	0.69J	ug/L	1.5	08/09/16 19:24	
EPA 8260B	m&p-Xylene	0.88J	ug/L	1.0	08/09/16 19:24	
EPA 8260B	o-Xylene	0.69	ug/L	0.50	08/09/16 19:24	
1272259002	MW20FD-1608					
EPA 8260B	2-Butanone (MEK)	2.8J	ug/L	5.0	08/09/16 19:44	
EPA 8260B	2-Hexanone	0.36J	ug/L	5.0	08/09/16 19:44	
EPA 8260B	4-Methyl-2-pentanone (MIBK)	1.2J	ug/L	5.0	08/09/16 19:44	
EPA 8260B	Acetone	20.3	ug/L	10.0	08/09/16 19:44	
EPA 8260B	Benzene	0.65	ug/L	0.50	08/09/16 19:44	
EPA 8260B	Ethylbenzene	0.43J	ug/L	0.50	08/09/16 19:44	
EPA 8260B	Naphthalene	0.18J	ug/L	0.50	08/09/16 19:44	
EPA 8260B	Toluene	1.0	ug/L	0.50	08/09/16 19:44	
EPA 8260B	Xylene (Total)	0.58J	ug/L	1.5	08/09/16 19:44	
EPA 8260B	m&p-Xylene	0.80J	ug/L	1.0	08/09/16 19:44	
EPA 8260B	o-Xylene	0.58	ug/L	0.50	08/09/16 19:44	
1272259003	MW5-1608					
EPA 8260B	Acetone	7.8J	ug/L	10.0	08/09/16 17:04	
EPA 8260B	Ethylbenzene	0.15J	ug/L	0.50	08/09/16 17:04	
EPA 8260B	Naphthalene	0.068J	ug/L	0.50	08/09/16 17:04	
EPA 8260B	Toluene	0.43J	ug/L	0.50	08/09/16 17:04	
EPA 8260B	o-Xylene	0.29J	ug/L	0.50	08/09/16 17:04	
1272259004	TRIP BLANK					
EPA 8260B	Acetone	7.7J	ug/L	10.0	08/09/16 18:44	
EPA 8260B	Naphthalene	0.16J	ug/L	0.50	08/09/16 18:44	
1272259005	MW1S-1608					
EPA 8260B	1,2-Dichloroethane	0.31J	ug/L	0.50	08/09/16 20:04	
EPA 8260B	Acetone	8.2J	ug/L	10.0	08/09/16 20:04	
EPA 8260B	Naphthalene	0.081J	ug/L	0.50	08/09/16 20:04	
EPA 8260B	p-Isopropyltoluene	0.75	ug/L	0.50	08/09/16 20:04	
EPA 8260B	tert-Butylbenzene	0.20J	ug/L	0.50	08/09/16 20:04	
1272259006	MW1D-1608					
EPA 8260B	1,2-Dichloroethane	0.35J	ug/L	0.50	08/09/16 20:24	
EPA 8260B	Acetone	8.5J	ug/L	10.0	08/09/16 20:24	
EPA 8260B	Naphthalene	0.070J	ug/L	0.50	08/09/16 20:24	
1272259007	MW6S-1608					
EPA 8260B	1,2-Dichloroethane	0.34J	ug/L	0.50	08/09/16 20:44	
EPA 8260B	2-Hexanone	0.39J	ug/L	5.0	08/09/16 20:44	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
1272259007	MW6S-1608					
EPA 8260B	4-Methyl-2-pentanone (MIBK)	1.2J	ug/L	5.0	08/09/16 20:44	
EPA 8260B	Acetone	22.1	ug/L	10.0	08/09/16 20:44	
EPA 8260B	Bromomethane	0.37J	ug/L	20.0	08/09/16 20:44	
1272259008	MW10-1608					
EPA 8260B	1,2-Dichloroethane	0.35J	ug/L	0.50	08/09/16 21:04	
EPA 8260B	Acetone	15.3	ug/L	10.0	08/09/16 21:04	
EPA 8260B	Carbon tetrachloride	3.8	ug/L	0.50	08/09/16 21:04	
EPA 8260B	Chloroform	1.5	ug/L	0.50	08/09/16 21:04	
EPA 8260B	Naphthalene	0.13J	ug/L	0.50	08/09/16 21:04	
EPA 8260B	tert-Butyl Alcohol	4.9J	ug/L	5.0	08/09/16 21:04	
1272259009	MW12-1608					
EPA 8260B	Acetone	12.4	ug/L	10.0	08/09/16 21:24	
EPA 8260B	Naphthalene	0.15J	ug/L	0.50	08/09/16 21:24	
EPA 8260B	Toluene	0.41J	ug/L	0.50	08/09/16 21:24	
1272259010	EB-01					
EPA 8260B	2-Butanone (MEK)	1.5J	ug/L	5.0	08/09/16 19:04	
EPA 8260B	Acetone	3.8J	ug/L	10.0	08/09/16 19:04	
EPA 8260B	Naphthalene	0.12J	ug/L	0.50	08/09/16 19:04	
1272259011	MW4-1608					
EPA 8260B	Acetone	13.5	ug/L	10.0	08/09/16 21:44	
EPA 8260B	Carbon tetrachloride	4.8	ug/L	0.50	08/09/16 21:44	
EPA 8260B	Chloroform	0.60	ug/L	0.50	08/09/16 21:44	
EPA 8260B	Toluene	0.16J	ug/L	0.50	08/09/16 21:44	
EPA 8260B	o-Xylene	0.15J	ug/L	0.50	08/09/16 21:44	
1272259012	MW40FD-1608					
EPA 8260B	1,2-Dichloroethane	0.31J	ug/L	0.50	08/09/16 22:04	
EPA 8260B	2,2-Dichloropropane	0.31J	ug/L	2.0	08/09/16 22:04	
EPA 8260B	Acetone	7.5J	ug/L	10.0	08/09/16 22:04	
EPA 8260B	Carbon tetrachloride	4.4	ug/L	0.50	08/09/16 22:04	
EPA 8260B	Chloroform	0.58	ug/L	0.50	08/09/16 22:04	
EPA 8260B	Toluene	0.16J	ug/L	0.50	08/09/16 22:04	
EPA 8260B	o-Xylene	0.14J	ug/L	0.50	08/09/16 22:04	
1272259013	MW11-1608					
EPA 8260B	Acetone	16.3	ug/L	10.0	08/09/16 22:24	
EPA 8260B	Bromomethane	0.38J	ug/L	20.0	08/09/16 22:24	
EPA 8260B	Chloroform	0.54	ug/L	0.50	08/09/16 22:24	
EPA 8260B	Ethylbenzene	0.41J	ug/L	0.50	08/09/16 22:24	
EPA 8260B	Methylene Chloride	0.39J	ug/L	5.0	08/09/16 22:24	
EPA 8260B	Naphthalene	0.091J	ug/L	0.50	08/09/16 22:24	
EPA 8260B	Toluene	0.44J	ug/L	0.50	08/09/16 22:24	
EPA 8260B	Xylene (Total)	2.2	ug/L	1.5	08/09/16 22:24	
EPA 8260B	m&p-Xylene	1.3	ug/L	1.0	08/09/16 22:24	
EPA 8260B	o-Xylene	0.89	ug/L	0.50	08/09/16 22:24	
EPA 8260B	tert-Butyl Alcohol	4.1J	ug/L	5.0	08/09/16 22:24	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1272259014	MW30FD-1608					
EPA 8260B	Acetone	5.4J	ug/L	10.0	08/09/16 22:44	
EPA 8260B	Chloroform	0.38J	ug/L	0.50	08/09/16 22:44	
EPA 8260B	Ethylbenzene	0.42J	ug/L	0.50	08/09/16 22:44	
EPA 8260B	Methylene Chloride	0.98J	ug/L	5.0	08/09/16 22:44	
EPA 8260B	Toluene	0.52	ug/L	0.50	08/09/16 22:44	
EPA 8260B	Xylene (Total)	2.2	ug/L	1.5	08/09/16 22:44	
EPA 8260B	m&p-Xylene	1.3	ug/L	1.0	08/09/16 22:44	
EPA 8260B	o-Xylene	0.87	ug/L	0.50	08/09/16 22:44	
1272259015	W20-1608					
EPA 8260B	Acetone	8.3J	ug/L	10.0	08/09/16 23:04	
EPA 8260B	Toluene	0.24J	ug/L	0.50	08/09/16 23:04	
EPA 8260B	tert-Butyl Alcohol	3.9J	ug/L	5.0	08/09/16 23:04	
1272259016	W26-1608					
EPA 8260B	Acetone	9.5J	ug/L	10.0	08/09/16 23:24	
EPA 8260B	Carbon tetrachloride	19.8	ug/L	0.50	08/09/16 23:24	
EPA 8260B	Chloroform	2.1	ug/L	0.50	08/09/16 23:24	
EPA 8260B	Toluene	0.33J	ug/L	0.50	08/09/16 23:24	
EPA 8260B	o-Xylene	0.21J	ug/L	0.50	08/09/16 23:24	

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PROJECT NARRATIVE

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Method: EPA 8260B

Description: 8260 MSV Med Water

Client: UPRR_CH2M Hill

Date: August 10, 2016

General Information:

16 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW2S-1608 **Lab ID: 1272259001** Collected: 08/03/16 18:15 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 19:24	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 19:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 19:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 19:24	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 19:24	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 19:24	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 19:24	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 19:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 19:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 19:24	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:24	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 19:24	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:24	78-87-5	
1,3,5-Trimethylbenzene	0.29J	ug/L	0.50	0.20	1		08/09/16 19:24	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:24	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 19:24	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 19:24	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 19:24	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 19:24	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 19:24	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 19:24	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 19:24	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 19:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 19:24	108-10-1	
Acetone	21.6	ug/L	10.0	1.7	1		08/09/16 19:24	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 19:24	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 19:24	107-13-1	
Benzene	0.68	ug/L	0.50	0.12	1		08/09/16 19:24	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 19:24	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 19:24	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 19:24	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 19:24	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 19:24	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 19:24	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 19:24	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 19:24	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 19:24	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 19:24	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW2S-1608 **Lab ID: 1272259001** Collected: 08/03/16 18:15 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:24	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:24	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 19:24	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 19:24	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 19:24	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	637-92-3	
Ethylbenzene	0.45J	ug/L	0.50	0.098	1		08/09/16 19:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 19:24	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 19:24	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 19:24	1634-04-4	
Methylene Chloride	0.58J	ug/L	5.0	0.11	1		08/09/16 19:24	75-09-2	
Naphthalene	0.21J	ug/L	0.50	0.068	1		08/09/16 19:24	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:24	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 19:24	109-99-9	
Toluene	1.1	ug/L	0.50	0.10	1		08/09/16 19:24	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:24	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:24	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 19:24	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 19:24	75-01-4	
Xylene (Total)	0.69J	ug/L	1.5	0.50	1		08/09/16 19:24	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 19:24	10061-01-5	
m&p-Xylene	0.88J	ug/L	1.0	0.50	1		08/09/16 19:24	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:24	103-65-1	
o-Xylene	0.69	ug/L	0.50	0.11	1		08/09/16 19:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 19:24	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 19:24	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 19:24	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 19:24	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:24	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:24	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 19:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 19:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		08/09/16 19:24	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/09/16 19:24	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		08/09/16 19:24	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW20FD-1608 **Lab ID: 1272259002** Collected: 08/03/16 12:00 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 19:44	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 19:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 19:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 19:44	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 19:44	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 19:44	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 19:44	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 19:44	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 19:44	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:44	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 19:44	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:44	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 19:44	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 19:44	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 19:44	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 19:44	594-20-7	
2-Butanone (MEK)	2.8J	ug/L	5.0	0.45	1		08/09/16 19:44	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 19:44	95-49-8	
2-Hexanone	0.36J	ug/L	5.0	0.35	1		08/09/16 19:44	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 19:44	106-43-4	
4-Methyl-2-pentanone (MIBK)	1.2J	ug/L	5.0	0.32	1		08/09/16 19:44	108-10-1	
Acetone	20.3	ug/L	10.0	1.7	1		08/09/16 19:44	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 19:44	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 19:44	107-13-1	
Benzene	0.65	ug/L	0.50	0.12	1		08/09/16 19:44	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 19:44	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 19:44	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 19:44	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 19:44	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 19:44	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 19:44	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 19:44	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 19:44	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 19:44	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW20FD-1608 **Lab ID: 1272259002** Collected: 08/03/16 12:00 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:44	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:44	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 19:44	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 19:44	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 19:44	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	637-92-3	
Ethylbenzene	0.43J	ug/L	0.50	0.098	1		08/09/16 19:44	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 19:44	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 19:44	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 19:44	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 19:44	75-09-2	
Naphthalene	0.18J	ug/L	0.50	0.068	1		08/09/16 19:44	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 19:44	109-99-9	
Toluene	1.0	ug/L	0.50	0.10	1		08/09/16 19:44	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:44	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:44	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 19:44	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	75-01-4	
Xylene (Total)	0.58J	ug/L	1.5	0.50	1		08/09/16 19:44	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 19:44	10061-01-5	
m&p-Xylene	0.80J	ug/L	1.0	0.50	1		08/09/16 19:44	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:44	103-65-1	
o-Xylene	0.58	ug/L	0.50	0.11	1		08/09/16 19:44	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 19:44	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 19:44	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 19:44	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 19:44	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:44	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:44	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 19:44	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 19:44	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		08/09/16 19:44	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		08/09/16 19:44	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		1		08/09/16 19:44	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW5-1608 **Lab ID: 1272259003** Collected: 08/03/16 20:20 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 17:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 17:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 17:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 17:04	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 17:04	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 17:04	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 17:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 17:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 17:04	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 17:04	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 17:04	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 17:04	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 17:04	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 17:04	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 17:04	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 17:04	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 17:04	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 17:04	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 17:04	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 17:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 17:04	108-10-1	
Acetone	7.8J	ug/L	10.0	1.7	1		08/09/16 17:04	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 17:04	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 17:04	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 17:04	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 17:04	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 17:04	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 17:04	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 17:04	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 17:04	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 17:04	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 17:04	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 17:04	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW5-1608 **Lab ID: 1272259003** Collected: 08/03/16 20:20 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 17:04	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 17:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 17:04	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 17:04	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 17:04	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	637-92-3	
Ethylbenzene	0.15J	ug/L	0.50	0.098	1		08/09/16 17:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 17:04	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 17:04	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 17:04	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 17:04	75-09-2	
Naphthalene	0.068J	ug/L	0.50	0.068	1		08/09/16 17:04	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 17:04	109-99-9	
Toluene	0.43J	ug/L	0.50	0.10	1		08/09/16 17:04	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 17:04	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 17:04	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 17:04	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 17:04	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 17:04	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 17:04	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 17:04	103-65-1	
o-Xylene	0.29J	ug/L	0.50	0.11	1		08/09/16 17:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 17:04	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 17:04	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 17:04	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 17:04	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 17:04	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 17:04	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 17:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 17:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		08/09/16 17:04	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/09/16 17:04	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		1		08/09/16 17:04	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: TRIP BLANK **Lab ID: 1272259004** Collected: 08/03/16 09:30 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 18:44	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 18:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 18:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 18:44	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 18:44	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 18:44	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 18:44	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 18:44	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 18:44	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 18:44	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 18:44	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 18:44	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 18:44	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 18:44	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 18:44	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 18:44	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 18:44	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 18:44	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 18:44	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 18:44	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 18:44	108-10-1	
Acetone	7.7J	ug/L	10.0	1.7	1		08/09/16 18:44	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 18:44	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 18:44	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 18:44	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 18:44	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 18:44	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 18:44	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 18:44	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 18:44	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 18:44	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 18:44	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 18:44	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: TRIP BLANK **Lab ID: 1272259004** Collected: 08/03/16 09:30 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 18:44	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 18:44	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 18:44	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 18:44	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 18:44	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 18:44	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 18:44	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 18:44	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 18:44	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 18:44	75-09-2	
Naphthalene	0.16J	ug/L	0.50	0.068	1		08/09/16 18:44	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 18:44	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/09/16 18:44	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 18:44	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 18:44	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 18:44	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 18:44	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 18:44	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 18:44	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 18:44	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 18:44	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 18:44	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 18:44	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 18:44	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 18:44	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 18:44	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 18:44	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 18:44	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 18:44	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		08/09/16 18:44	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/09/16 18:44	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		08/09/16 18:44	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW1S-1608 **Lab ID: 1272259005** Collected: 08/04/16 08:20 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 20:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 20:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 20:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 20:04	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 20:04	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:04	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 20:04	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 20:04	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 20:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 20:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 20:04	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:04	95-50-1	
1,2-Dichloroethane	0.31J	ug/L	0.50	0.10	1		08/09/16 20:04	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 20:04	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:04	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 20:04	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 20:04	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 20:04	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 20:04	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 20:04	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 20:04	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 20:04	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 20:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 20:04	108-10-1	
Acetone	8.2J	ug/L	10.0	1.7	1		08/09/16 20:04	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 20:04	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 20:04	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 20:04	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 20:04	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 20:04	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 20:04	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 20:04	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 20:04	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 20:04	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 20:04	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 20:04	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW1S-1608 **Lab ID: 1272259005** Collected: 08/04/16 08:20 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:04	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 20:04	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 20:04	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 20:04	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 20:04	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 20:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 20:04	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 20:04	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 20:04	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 20:04	75-09-2	
Naphthalene	0.081J	ug/L	0.50	0.068	1		08/09/16 20:04	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 20:04	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/09/16 20:04	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:04	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:04	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 20:04	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 20:04	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:04	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 20:04	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 20:04	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:04	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:04	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:04	95-47-6	
p-Isopropyltoluene	0.75	ug/L	0.50	0.064	1		08/09/16 20:04	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 20:04	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 20:04	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 20:04	75-65-0	
tert-Butylbenzene	0.20J	ug/L	0.50	0.19	1		08/09/16 20:04	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:04	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 20:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 20:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		08/09/16 20:04	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/09/16 20:04	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		08/09/16 20:04	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW1D-1608 **Lab ID: 1272259006** Collected: 08/04/16 08:50 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 20:24	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 20:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 20:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 20:24	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 20:24	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 20:24	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 20:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 20:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 20:24	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:24	95-50-1	
1,2-Dichloroethane	0.35J	ug/L	0.50	0.10	1		08/09/16 20:24	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:24	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 20:24	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 20:24	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 20:24	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 20:24	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 20:24	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 20:24	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 20:24	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 20:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 20:24	108-10-1	
Acetone	8.5J	ug/L	10.0	1.7	1		08/09/16 20:24	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 20:24	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 20:24	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 20:24	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 20:24	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 20:24	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 20:24	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 20:24	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 20:24	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 20:24	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 20:24	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 20:24	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW1D-1608 **Lab ID: 1272259006** Collected: 08/04/16 08:50 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:24	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:24	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 20:24	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 20:24	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 20:24	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 20:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 20:24	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 20:24	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 20:24	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 20:24	75-09-2	
Naphthalene	0.070J	ug/L	0.50	0.068	1		08/09/16 20:24	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 20:24	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/09/16 20:24	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:24	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:24	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 20:24	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 20:24	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 20:24	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 20:24	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:24	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 20:24	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 20:24	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 20:24	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 20:24	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:24	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:24	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 20:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 20:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		08/09/16 20:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		08/09/16 20:24	2037-26-5	
4-Bromofluorobenzene (S)	93	%	70-130		1		08/09/16 20:24	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW6S-1608 **Lab ID: 1272259007** Collected: 08/04/16 10:40 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 20:44	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 20:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 20:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 20:44	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 20:44	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 20:44	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 20:44	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 20:44	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 20:44	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:44	95-50-1	
1,2-Dichloroethane	0.34J	ug/L	0.50	0.10	1		08/09/16 20:44	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:44	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 20:44	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 20:44	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 20:44	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 20:44	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 20:44	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 20:44	95-49-8	
2-Hexanone	0.39J	ug/L	5.0	0.35	1		08/09/16 20:44	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 20:44	106-43-4	
4-Methyl-2-pentanone (MIBK)	1.2J	ug/L	5.0	0.32	1		08/09/16 20:44	108-10-1	
Acetone	22.1	ug/L	10.0	1.7	1		08/09/16 20:44	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 20:44	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 20:44	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 20:44	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 20:44	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 20:44	75-25-2	
Bromomethane	0.37J	ug/L	20.0	0.25	1		08/09/16 20:44	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 20:44	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 20:44	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 20:44	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 20:44	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 20:44	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW6S-1608 **Lab ID: 1272259007** Collected: 08/04/16 10:40 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:44	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 20:44	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 20:44	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 20:44	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 20:44	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 20:44	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 20:44	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 20:44	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 20:44	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 20:44	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/09/16 20:44	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 20:44	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/09/16 20:44	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:44	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 20:44	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 20:44	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 20:44	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 20:44	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 20:44	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 20:44	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:44	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 20:44	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 20:44	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 20:44	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 20:44	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 20:44	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 20:44	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 20:44	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 20:44	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		08/09/16 20:44	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		08/09/16 20:44	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		08/09/16 20:44	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW10-1608 **Lab ID: 1272259008** Collected: 08/04/16 11:10 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 21:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 21:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 21:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 21:04	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 21:04	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 21:04	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 21:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 21:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 21:04	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:04	95-50-1	
1,2-Dichloroethane	0.35J	ug/L	0.50	0.10	1		08/09/16 21:04	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:04	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 21:04	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 21:04	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 21:04	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 21:04	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 21:04	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 21:04	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 21:04	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 21:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 21:04	108-10-1	
Acetone	15.3	ug/L	10.0	1.7	1		08/09/16 21:04	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 21:04	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 21:04	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 21:04	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 21:04	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 21:04	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 21:04	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	75-15-0	
Carbon tetrachloride	3.8	ug/L	0.50	0.12	1		08/09/16 21:04	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 21:04	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 21:04	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 21:04	75-00-3	
Chloroform	1.5	ug/L	0.50	0.098	1		08/09/16 21:04	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 21:04	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW10-1608 **Lab ID: 1272259008** Collected: 08/04/16 11:10 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:04	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 21:04	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 21:04	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 21:04	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 21:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 21:04	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 21:04	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 21:04	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 21:04	75-09-2	
Naphthalene	0.13J	ug/L	0.50	0.068	1		08/09/16 21:04	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 21:04	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/09/16 21:04	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:04	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:04	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 21:04	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 21:04	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 21:04	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 21:04	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:04	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 21:04	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 21:04	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 21:04	994-05-8	
tert-Butyl Alcohol	4.9J	ug/L	5.0	2.0	1		08/09/16 21:04	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:04	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:04	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 21:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 21:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		08/09/16 21:04	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		08/09/16 21:04	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		1		08/09/16 21:04	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW12-1608 **Lab ID: 1272259009** Collected: 08/04/16 11:45 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 21:24	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 21:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 21:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 21:24	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 21:24	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 21:24	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 21:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 21:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 21:24	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:24	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 21:24	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:24	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 21:24	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 21:24	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 21:24	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 21:24	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 21:24	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 21:24	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 21:24	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 21:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 21:24	108-10-1	
Acetone	12.4	ug/L	10.0	1.7	1		08/09/16 21:24	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 21:24	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 21:24	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 21:24	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 21:24	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 21:24	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 21:24	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 21:24	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 21:24	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 21:24	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 21:24	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 21:24	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW12-1608 **Lab ID: 1272259009** Collected: 08/04/16 11:45 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:24	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:24	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 21:24	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 21:24	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 21:24	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 21:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 21:24	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 21:24	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 21:24	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 21:24	75-09-2	
Naphthalene	0.15J	ug/L	0.50	0.068	1		08/09/16 21:24	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 21:24	109-99-9	
Toluene	0.41J	ug/L	0.50	0.10	1		08/09/16 21:24	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:24	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:24	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 21:24	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 21:24	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 21:24	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 21:24	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:24	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 21:24	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 21:24	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 21:24	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 21:24	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:24	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:24	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 21:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 21:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		08/09/16 21:24	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		08/09/16 21:24	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		1		08/09/16 21:24	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: EB-01 **Lab ID: 1272259010** Collected: 08/04/16 12:15 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 19:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 19:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 19:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 19:04	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 19:04	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 19:04	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 19:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 19:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 19:04	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:04	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 19:04	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:04	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 19:04	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 19:04	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 19:04	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 19:04	594-20-7	
2-Butanone (MEK)	1.5J	ug/L	5.0	0.45	1		08/09/16 19:04	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 19:04	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 19:04	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 19:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 19:04	108-10-1	
Acetone	3.8J	ug/L	10.0	1.7	1		08/09/16 19:04	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 19:04	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 19:04	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 19:04	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 19:04	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 19:04	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 19:04	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 19:04	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 19:04	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 19:04	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 19:04	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 19:04	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: EB-01 **Lab ID: 1272259010** Collected: 08/04/16 12:15 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:04	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 19:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 19:04	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 19:04	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 19:04	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 19:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 19:04	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 19:04	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 19:04	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 19:04	75-09-2	
Naphthalene	0.12J	ug/L	0.50	0.068	1		08/09/16 19:04	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 19:04	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/09/16 19:04	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:04	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 19:04	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 19:04	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 19:04	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 19:04	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 19:04	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 19:04	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 19:04	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 19:04	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 19:04	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 19:04	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 19:04	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 19:04	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 19:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 19:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		08/09/16 19:04	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/09/16 19:04	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		08/09/16 19:04	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW4-1608 **Lab ID: 1272259011** Collected: 08/04/16 15:10 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 21:44	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 21:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 21:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 21:44	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 21:44	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 21:44	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 21:44	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 21:44	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 21:44	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:44	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 21:44	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:44	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 21:44	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 21:44	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 21:44	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 21:44	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 21:44	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 21:44	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 21:44	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 21:44	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 21:44	108-10-1	
Acetone	13.5	ug/L	10.0	1.7	1		08/09/16 21:44	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 21:44	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 21:44	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 21:44	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 21:44	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 21:44	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 21:44	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	75-15-0	
Carbon tetrachloride	4.8	ug/L	0.50	0.12	1		08/09/16 21:44	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 21:44	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 21:44	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 21:44	75-00-3	
Chloroform	0.60	ug/L	0.50	0.098	1		08/09/16 21:44	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 21:44	74-87-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW4-1608 **Lab ID: 1272259011** Collected: 08/04/16 15:10 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:44	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 21:44	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 21:44	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 21:44	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 21:44	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 21:44	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 21:44	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 21:44	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 21:44	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 21:44	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/09/16 21:44	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 21:44	109-99-9	
Toluene	0.16J	ug/L	0.50	0.10	1		08/09/16 21:44	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:44	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 21:44	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 21:44	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 21:44	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 21:44	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 21:44	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 21:44	103-65-1	
o-Xylene	0.15J	ug/L	0.50	0.11	1		08/09/16 21:44	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 21:44	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 21:44	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 21:44	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 21:44	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 21:44	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 21:44	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 21:44	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 21:44	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		08/09/16 21:44	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/09/16 21:44	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		1		08/09/16 21:44	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW40FD-1608 **Lab ID: 1272259012** Collected: 08/04/16 08:00 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 22:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 22:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 22:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 22:04	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 22:04	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 22:04	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 22:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 22:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 22:04	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:04	95-50-1	
1,2-Dichloroethane	0.31J	ug/L	0.50	0.10	1		08/09/16 22:04	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:04	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 22:04	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 22:04	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 22:04	540-84-1	
2,2-Dichloropropane	0.31J	ug/L	2.0	0.13	1		08/09/16 22:04	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 22:04	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 22:04	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 22:04	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 22:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 22:04	108-10-1	
Acetone	7.5J	ug/L	10.0	1.7	1		08/09/16 22:04	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 22:04	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 22:04	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 22:04	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 22:04	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 22:04	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 22:04	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	75-15-0	
Carbon tetrachloride	4.4	ug/L	0.50	0.12	1		08/09/16 22:04	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 22:04	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 22:04	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 22:04	75-00-3	
Chloroform	0.58	ug/L	0.50	0.098	1		08/09/16 22:04	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 22:04	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW40FD-1608 **Lab ID: 1272259012** Collected: 08/04/16 08:00 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:04	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 22:04	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 22:04	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 22:04	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 22:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 22:04	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 22:04	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 22:04	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 22:04	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/09/16 22:04	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 22:04	109-99-9	
Toluene	0.16J	ug/L	0.50	0.10	1		08/09/16 22:04	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:04	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:04	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 22:04	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 22:04	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 22:04	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 22:04	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:04	103-65-1	
o-Xylene	0.14J	ug/L	0.50	0.11	1		08/09/16 22:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 22:04	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 22:04	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 22:04	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 22:04	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:04	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:04	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 22:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 22:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		08/09/16 22:04	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		08/09/16 22:04	2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-130		1		08/09/16 22:04	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW11-1608 **Lab ID: 1272259013** Collected: 08/04/16 17:15 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 22:24	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 22:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 22:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 22:24	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 22:24	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 22:24	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 22:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 22:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 22:24	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:24	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 22:24	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:24	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 22:24	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 22:24	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 22:24	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 22:24	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 22:24	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 22:24	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 22:24	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 22:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 22:24	108-10-1	
Acetone	16.3	ug/L	10.0	1.7	1		08/09/16 22:24	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 22:24	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 22:24	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 22:24	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 22:24	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 22:24	75-25-2	
Bromomethane	0.38J	ug/L	20.0	0.25	1		08/09/16 22:24	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 22:24	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 22:24	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 22:24	75-00-3	
Chloroform	0.54	ug/L	0.50	0.098	1		08/09/16 22:24	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 22:24	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW11-1608 **Lab ID: 1272259013** Collected: 08/04/16 17:15 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:24	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:24	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 22:24	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 22:24	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 22:24	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	637-92-3	
Ethylbenzene	0.41J	ug/L	0.50	0.098	1		08/09/16 22:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 22:24	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 22:24	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 22:24	1634-04-4	
Methylene Chloride	0.39J	ug/L	5.0	0.11	1		08/09/16 22:24	75-09-2	
Naphthalene	0.091J	ug/L	0.50	0.068	1		08/09/16 22:24	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 22:24	109-99-9	
Toluene	0.44J	ug/L	0.50	0.10	1		08/09/16 22:24	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:24	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:24	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 22:24	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	75-01-4	
Xylene (Total)	2.2	ug/L	1.5	0.50	1		08/09/16 22:24	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 22:24	10061-01-5	
m&p-Xylene	1.3	ug/L	1.0	0.50	1		08/09/16 22:24	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:24	103-65-1	
o-Xylene	0.89	ug/L	0.50	0.11	1		08/09/16 22:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 22:24	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 22:24	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 22:24	994-05-8	
tert-Butyl Alcohol	4.1J	ug/L	5.0	2.0	1		08/09/16 22:24	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:24	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:24	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 22:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 22:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		08/09/16 22:24	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		08/09/16 22:24	2037-26-5	
4-Bromofluorobenzene (S)	90	%	70-130		1		08/09/16 22:24	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW30FD-1608 **Lab ID: 1272259014** Collected: 08/04/16 08:00 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 22:44	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 22:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 22:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 22:44	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 22:44	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 22:44	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 22:44	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 22:44	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 22:44	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:44	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 22:44	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:44	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 22:44	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 22:44	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 22:44	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 22:44	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 22:44	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 22:44	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 22:44	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 22:44	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 22:44	108-10-1	
Acetone	5.4J	ug/L	10.0	1.7	1		08/09/16 22:44	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 22:44	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 22:44	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 22:44	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 22:44	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 22:44	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 22:44	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 22:44	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 22:44	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 22:44	75-00-3	
Chloroform	0.38J	ug/L	0.50	0.098	1		08/09/16 22:44	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 22:44	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: MW30FD-1608 **Lab ID: 1272259014** Collected: 08/04/16 08:00 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:44	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 22:44	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 22:44	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 22:44	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 22:44	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	637-92-3	
Ethylbenzene	0.42J	ug/L	0.50	0.098	1		08/09/16 22:44	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 22:44	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 22:44	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 22:44	1634-04-4	
Methylene Chloride	0.98J	ug/L	5.0	0.11	1		08/09/16 22:44	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/09/16 22:44	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 22:44	109-99-9	
Toluene	0.52	ug/L	0.50	0.10	1		08/09/16 22:44	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:44	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 22:44	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 22:44	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	75-01-4	
Xylene (Total)	2.2	ug/L	1.5	0.50	1		08/09/16 22:44	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 22:44	10061-01-5	
m&p-Xylene	1.3	ug/L	1.0	0.50	1		08/09/16 22:44	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 22:44	103-65-1	
o-Xylene	0.87	ug/L	0.50	0.11	1		08/09/16 22:44	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 22:44	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 22:44	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 22:44	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 22:44	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 22:44	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 22:44	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 22:44	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 22:44	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		08/09/16 22:44	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		08/09/16 22:44	2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-130		1		08/09/16 22:44	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: W20-1608 **Lab ID: 1272259015** Collected: 08/04/16 18:50 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 23:04	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 23:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 23:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 23:04	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 23:04	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 23:04	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 23:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 23:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 23:04	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:04	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 23:04	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 23:04	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 23:04	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 23:04	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 23:04	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 23:04	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 23:04	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 23:04	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 23:04	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 23:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 23:04	108-10-1	
Acetone	8.3J	ug/L	10.0	1.7	1		08/09/16 23:04	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 23:04	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 23:04	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 23:04	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 23:04	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 23:04	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 23:04	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 23:04	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 23:04	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 23:04	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/09/16 23:04	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 23:04	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: W20-1608 **Lab ID: 1272259015** Collected: 08/04/16 18:50 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 23:04	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 23:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 23:04	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 23:04	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 23:04	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 23:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 23:04	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 23:04	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 23:04	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 23:04	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/09/16 23:04	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 23:04	109-99-9	
Toluene	0.24J	ug/L	0.50	0.10	1		08/09/16 23:04	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:04	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 23:04	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 23:04	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 23:04	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 23:04	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 23:04	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:04	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 23:04	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 23:04	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 23:04	994-05-8	
tert-Butyl Alcohol	3.9J	ug/L	5.0	2.0	1		08/09/16 23:04	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:04	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:04	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 23:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 23:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		08/09/16 23:04	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		08/09/16 23:04	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		1		08/09/16 23:04	460-00-4	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: W26-1608 **Lab ID: 1272259016** Collected: 08/04/16 20:10 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/09/16 23:24	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/09/16 23:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/09/16 23:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/09/16 23:24	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/09/16 23:24	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/09/16 23:24	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/09/16 23:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/09/16 23:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/09/16 23:24	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:24	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/09/16 23:24	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/09/16 23:24	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/09/16 23:24	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/09/16 23:24	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/09/16 23:24	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/09/16 23:24	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/09/16 23:24	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/09/16 23:24	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/09/16 23:24	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/09/16 23:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/09/16 23:24	108-10-1	
Acetone	9.5J	ug/L	10.0	1.7	1		08/09/16 23:24	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/09/16 23:24	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/09/16 23:24	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/09/16 23:24	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/09/16 23:24	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/09/16 23:24	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/09/16 23:24	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	75-15-0	
Carbon tetrachloride	19.8	ug/L	0.50	0.12	1		08/09/16 23:24	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/09/16 23:24	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/09/16 23:24	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/09/16 23:24	75-00-3	
Chloroform	2.1	ug/L	0.50	0.098	1		08/09/16 23:24	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/09/16 23:24	74-87-3	

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ANALYTICAL RESULTS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Sample: W26-1608 **Lab ID: 1272259016** Collected: 08/04/16 20:10 Received: 08/09/16 12:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/09/16 23:24	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/09/16 23:24	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/09/16 23:24	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/09/16 23:24	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/09/16 23:24	108-20-3	
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/09/16 23:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/09/16 23:24	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/09/16 23:24	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/09/16 23:24	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/09/16 23:24	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/09/16 23:24	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/09/16 23:24	109-99-9	
Toluene	0.33J	ug/L	0.50	0.10	1		08/09/16 23:24	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:24	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/09/16 23:24	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/09/16 23:24	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/09/16 23:24	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/09/16 23:24	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/09/16 23:24	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/09/16 23:24	103-65-1	
o-Xylene	0.21J	ug/L	0.50	0.11	1		08/09/16 23:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/09/16 23:24	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/09/16 23:24	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/09/16 23:24	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/09/16 23:24	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/09/16 23:24	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/09/16 23:24	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/09/16 23:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/09/16 23:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		08/09/16 23:24	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		08/09/16 23:24	2037-26-5	
4-Bromofluorobenzene (S)	91	%	70-130		1		08/09/16 23:24	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

QC Batch: 90576 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Med Water
 Associated Lab Samples: 1272259001, 1272259002, 1272259003, 1272259004, 1272259005, 1272259006, 1272259007, 1272259008,
 1272259009, 1272259010, 1272259011, 1272259012, 1272259013, 1272259014, 1272259015, 1272259016

METHOD BLANK: 356186 Matrix: Water
 Associated Lab Samples: 1272259001, 1272259002, 1272259003, 1272259004, 1272259005, 1272259006, 1272259007, 1272259008,
 1272259009, 1272259010, 1272259011, 1272259012, 1272259013, 1272259014, 1272259015, 1272259016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	0.50	0.082	08/09/16 16:44	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	08/09/16 16:44	
1,1,2,2-Tetrachloroethane	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
1,1,2-Trichloroethane	ug/L	<0.15	0.50	0.15	08/09/16 16:44	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
1,1-Dichloroethane	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
1,1-Dichloroethene	ug/L	<0.18	0.50	0.18	08/09/16 16:44	
1,1-Dichloropropene	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
1,2,3-Trichlorobenzene	ug/L	<0.10	0.50	0.10	08/09/16 16:44	
1,2,3-Trichloropropane	ug/L	<0.20	0.50	0.20	08/09/16 16:44	
1,2,4-Trichlorobenzene	ug/L	<0.096	0.50	0.096	08/09/16 16:44	
1,2,4-Trimethylbenzene	ug/L	<0.078	0.50	0.078	08/09/16 16:44	
1,2-Dibromo-3-chloropropane	ug/L	<0.25	2.0	0.25	08/09/16 16:44	
1,2-Dibromoethane (EDB)	ug/L	<0.10	0.50	0.10	08/09/16 16:44	
1,2-Dichlorobenzene	ug/L	<0.11	0.50	0.11	08/09/16 16:44	
1,2-Dichloroethane	ug/L	<0.10	0.50	0.10	08/09/16 16:44	
1,2-Dichloroethene (Total)	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
1,2-Dichloropropane	ug/L	<0.13	0.50	0.13	08/09/16 16:44	
1,3,5-Trimethylbenzene	ug/L	<0.20	0.50	0.20	08/09/16 16:44	
1,3-Dichlorobenzene	ug/L	<0.20	0.50	0.20	08/09/16 16:44	
1,3-Dichloropropane	ug/L	<0.084	0.50	0.084	08/09/16 16:44	
1,4-Dichlorobenzene	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
1,4-Dioxane (p-Dioxane)	ug/L	<2.4	40.0	2.4	08/09/16 16:44	
2,2,4-Trimethylpentane	ug/L	<0.16	4.0	0.16	08/09/16 16:44	
2,2-Dichloropropane	ug/L	<0.13	2.0	0.13	08/09/16 16:44	
2-Butanone (MEK)	ug/L	<0.45	5.0	0.45	08/09/16 16:44	
2-Chlorotoluene	ug/L	<0.20	1.0	0.20	08/09/16 16:44	
2-Hexanone	ug/L	<0.35	5.0	0.35	08/09/16 16:44	
4-Chlorotoluene	ug/L	<0.088	1.0	0.088	08/09/16 16:44	
4-Methyl-2-pentanone (MIBK)	ug/L	1.1J	5.0	0.32	08/09/16 16:44	
Acetone	ug/L	<1.7	10.0	1.7	08/09/16 16:44	
Acrolein	ug/L	<0.93	5.0	0.93	08/09/16 16:44	
Acrylonitrile	ug/L	<2.0	5.0	2.0	08/09/16 16:44	
Benzene	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
Bromobenzene	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
Bromochloromethane	ug/L	<0.17	0.50	0.17	08/09/16 16:44	
Bromodichloromethane	ug/L	<0.098	0.50	0.098	08/09/16 16:44	
Bromoform	ug/L	<0.18	0.50	0.18	08/09/16 16:44	
Bromomethane	ug/L	<0.25	20.0	0.25	08/09/16 16:44	
Carbon disulfide	ug/L	<0.20	0.50	0.20	08/09/16 16:44	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

METHOD BLANK: 356186

Matrix: Water

Associated Lab Samples: 1272259001, 1272259002, 1272259003, 1272259004, 1272259005, 1272259006, 1272259007, 1272259008, 1272259009, 1272259010, 1272259011, 1272259012, 1272259013, 1272259014, 1272259015, 1272259016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Carbon tetrachloride	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
Chlorobenzene	ug/L	<0.14	0.50	0.14	08/09/16 16:44	
Chlorodifluoromethane	ug/L	<0.18	5.0	0.18	08/09/16 16:44	
Chloroethane	ug/L	<0.27	2.0	0.27	08/09/16 16:44	
Chloroform	ug/L	<0.098	0.50	0.098	08/09/16 16:44	
Chloromethane	ug/L	<0.15	2.0	0.15	08/09/16 16:44	
cis-1,2-Dichloroethene	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
cis-1,3-Dichloropropene	ug/L	<0.081	0.50	0.081	08/09/16 16:44	
Dibromochloromethane	ug/L	<0.13	0.50	0.13	08/09/16 16:44	
Dibromomethane	ug/L	<0.13	0.50	0.13	08/09/16 16:44	
Dichlorodifluoromethane	ug/L	<0.16	0.50	0.16	08/09/16 16:44	
Dichlorofluoromethane	ug/L	<0.14	0.50	0.14	08/09/16 16:44	
Diisopropyl ether	ug/L	<0.080	0.50	0.080	08/09/16 16:44	
Ethyl-tert-butyl ether	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
Ethylbenzene	ug/L	<0.098	0.50	0.098	08/09/16 16:44	
Hexachloro-1,3-butadiene	ug/L	<0.13	0.50	0.13	08/09/16 16:44	
Isopropylbenzene (Cumene)	ug/L	<0.094	0.50	0.094	08/09/16 16:44	
m&p-Xylene	ug/L	<0.50	1.0	0.50	08/09/16 16:44	
Methyl-tert-butyl ether	ug/L	<0.086	0.50	0.086	08/09/16 16:44	
Methylene Chloride	ug/L	<0.11	5.0	0.11	08/09/16 16:44	
n-Butylbenzene	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
n-Propylbenzene	ug/L	<0.20	0.50	0.20	08/09/16 16:44	
Naphthalene	ug/L	0.10J	0.50	0.068	08/09/16 16:44	
o-Xylene	ug/L	<0.11	0.50	0.11	08/09/16 16:44	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	08/09/16 16:44	
sec-Butylbenzene	ug/L	<0.064	0.50	0.064	08/09/16 16:44	
Styrene	ug/L	<0.20	0.50	0.20	08/09/16 16:44	
tert-Amylmethyl ether	ug/L	<0.059	0.50	0.059	08/09/16 16:44	
tert-Butyl Alcohol	ug/L	<2.0	5.0	2.0	08/09/16 16:44	
tert-Butylbenzene	ug/L	<0.19	0.50	0.19	08/09/16 16:44	
Tetrachloroethene	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
Tetrahydrofuran	ug/L	<1.7	5.0	1.7	08/09/16 16:44	
Toluene	ug/L	<0.10	0.50	0.10	08/09/16 16:44	
trans-1,2-Dichloroethene	ug/L	<0.11	0.50	0.11	08/09/16 16:44	
trans-1,3-Dichloropropene	ug/L	<0.089	0.50	0.089	08/09/16 16:44	
trans-1,4-Dichloro-2-butene	ug/L	<0.30	5.0	0.30	08/09/16 16:44	
Trichloroethene	ug/L	<0.11	0.50	0.11	08/09/16 16:44	
Trichlorofluoromethane	ug/L	<0.12	0.50	0.12	08/09/16 16:44	
Vinyl acetate	ug/L	<0.28	5.0	0.28	08/09/16 16:44	
Vinyl chloride	ug/L	<0.20	0.50	0.20	08/09/16 16:44	
Xylene (Total)	ug/L	<0.50	1.5	0.50	08/09/16 16:44	
1,2-Dichloroethane-d4 (S)	%	102	70-130		08/09/16 16:44	
4-Bromofluorobenzene (S)	%	94	70-130		08/09/16 16:44	
Toluene-d8 (S)	%	101	70-130		08/09/16 16:44	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

LABORATORY CONTROL SAMPLE: 356187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	40	41.4	104	72-134	
1,1,1-Trichloroethane	ug/L	40	41.3	103	67-138	
1,1,2,2-Tetrachloroethane	ug/L	40	42.5	106	75-125	
1,1,2-Trichloroethane	ug/L	40	43.0	107	75-126	
1,1,2-Trichlorotrifluoroethane	ug/L	40	40.7	102	74-127	
1,1-Dichloroethane	ug/L	40	42.5	106	71-131	
1,1-Dichloroethene	ug/L	40	40.1	100	74-126	
1,1-Dichloropropene	ug/L	40	41.9	105	73-126	
1,2,3-Trichlorobenzene	ug/L	40	39.6	99	75-125	
1,2,3-Trichloropropane	ug/L	40	41.7	104	74-126	
1,2,4-Trichlorobenzene	ug/L	40	40.0	100	75-127	
1,2,4-Trimethylbenzene	ug/L	40	40.6	101	75-127	
1,2-Dibromo-3-chloropropane	ug/L	100	104	104	51-150	
1,2-Dibromoethane (EDB)	ug/L	40	41.4	104	74-128	
1,2-Dichlorobenzene	ug/L	40	41.9	105	75-125	
1,2-Dichloroethane	ug/L	40	41.2	103	64-141	
1,2-Dichloroethene (Total)	ug/L	80	84.2	105	70-130	
1,2-Dichloropropane	ug/L	40	42.7	107	73-127	
1,3,5-Trimethylbenzene	ug/L	40	41.2	103	75-127	
1,3-Dichlorobenzene	ug/L	40	39.2	98	75-125	
1,3-Dichloropropane	ug/L	40	43.6	109	73-129	
1,4-Dichlorobenzene	ug/L	40	40.6	101	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	800	834	104	70-130	
2,2,4-Trimethylpentane	ug/L	40	43.5	109	70-130	
2,2-Dichloropropane	ug/L	40	42.3	106	49-150	
2-Butanone (MEK)	ug/L	200	227	113	61-144	
2-Chlorotoluene	ug/L	40	38.7	97	75-125	
2-Hexanone	ug/L	200	239	119	64-144	
4-Chlorotoluene	ug/L	40	40.1	100	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	200	240	120	67-140	
Acetone	ug/L	200	209	105	56-140	
Acrolein	ug/L	400	409	102	70-130	
Acrylonitrile	ug/L	400	424	106	70-130	
Benzene	ug/L	40	39.3	98	75-125	
Bromobenzene	ug/L	40	39.1	98	75-125	
Bromochloromethane	ug/L	40	39.2	98	75-126	
Bromodichloromethane	ug/L	40	43.9	110	70-134	
Bromoform	ug/L	40	40.3	101	68-130	
Bromomethane	ug/L	40	40.9	102	30-150	
Carbon disulfide	ug/L	40	38.7	97	75-125	
Carbon tetrachloride	ug/L	40	40.9	102	66-135	
Chlorobenzene	ug/L	40	40.0	100	75-125	
Chlorodifluoromethane	ug/L	40	41.0	103	70-130	
Chloroethane	ug/L	40	42.7	107	55-150	
Chloroform	ug/L	40	42.3	106	72-131	
Chloromethane	ug/L	40	42.4	106	54-132	
cis-1,2-Dichloroethene	ug/L	40	39.5	99	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

LABORATORY CONTROL SAMPLE: 356187

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/L	40	44.4	111	74-130	
Dibromochloromethane	ug/L	40	43.5	109	70-132	
Dibromomethane	ug/L	40	39.2	98	72-135	
Dichlorodifluoromethane	ug/L	40	38.3	96	41-150	
Dichlorofluoromethane	ug/L	40	41.5	104	70-130	
Diisopropyl ether	ug/L	40	45.2	113	75-126	
Ethyl-tert-butyl ether	ug/L	40	44.1	110	75-125	
Ethylbenzene	ug/L	40	40.6	102	75-125	
Hexachloro-1,3-butadiene	ug/L	40	40.3	101	75-131	
Isopropylbenzene (Cumene)	ug/L	40	41.3	103	75-125	
m&p-Xylene	ug/L	80	77.4	97	75-125	
Methyl-tert-butyl ether	ug/L	40	41.9	105	73-125	
Methylene Chloride	ug/L	40	39.3	98	68-125	
n-Butylbenzene	ug/L	40	43.8	109	68-134	
n-Propylbenzene	ug/L	40	41.3	103	75-128	
Naphthalene	ug/L	40	41.3	103	69-128	
o-Xylene	ug/L	40	39.9	100	75-125	
p-Isopropyltoluene	ug/L	40	40.9	102	75-130	
sec-Butylbenzene	ug/L	40	41.1	103	75-125	
Styrene	ug/L	40	41.4	104	75-125	
tert-Amylmethyl ether	ug/L	40	42.1	105	75-125	
tert-Butyl Alcohol	ug/L	400	412	103	75-125	
tert-Butylbenzene	ug/L	40	41.5	104	75-129	
Tetrachloroethene	ug/L	40	39.3	98	75-130	
Tetrahydrofuran	ug/L	400	404	101	70-130	
Toluene	ug/L	40	40.9	102	75-125	
trans-1,2-Dichloroethene	ug/L	40	40.8	102	75-125	
trans-1,3-Dichloropropene	ug/L	40	44.7	112	69-137	
trans-1,4-Dichloro-2-butene	ug/L	100	106	106	70-130	
Trichloroethene	ug/L	40	39.4	98	75-125	
Trichlorofluoromethane	ug/L	40	39.8	99	59-140	
Vinyl acetate	ug/L	40	43.2	108	75-125	
Vinyl chloride	ug/L	40	40.3	101	68-132	
Xylene (Total)	ug/L	120	117	98	75-125	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			96	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 356207 356208

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		1272259003 Result	Spike Conc.	Spike Conc.	MS Result								
1,1,1,2-Tetrachloroethane	ug/L	<0.082	40	40	40.3	39.4	101	99	66-141	2	30		
1,1,1-Trichloroethane	ug/L	<0.14	40	40	41.5	41.2	104	103	63-142	1	30		
1,1,1,2-Tetrachloroethane	ug/L	<0.12	40	40	40.9	41.6	102	104	75-125	2	30		

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QUALITY CONTROL DATA

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Parameter	Units	1272259003		356207		356208		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,2-Trichloroethane	ug/L	<0.15	40	40	41.9	41.9	105	105	75-132	0	30		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.19	40	40	40.2	39.0	101	97	67-134	3	30		
1,1-Dichloroethane	ug/L	<0.12	40	40	42.4	41.7	106	104	75-126	2	30		
1,1-Dichloroethene	ug/L	<0.18	40	40	39.8	40.0	99	100	75-125	1	30		
1,1-Dichloropropene	ug/L	<0.19	40	40	41.9	40.9	105	102	69-129	2	30		
1,2,3-Trichlorobenzene	ug/L	<0.10	40	40	39.3	39.4	98	98	74-125	0	30		
1,2,3-Trichloropropane	ug/L	<0.20	40	40	39.2	40.7	98	102	74-126	4	30		
1,2,4-Trichlorobenzene	ug/L	<0.096	40	40	39.2	39.1	98	98	66-131	0	30		
1,2,4-Trimethylbenzene	ug/L	<0.078	40	40	38.9	38.5	97	96	75-128	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.25	100	100	100	107	100	107	41-150	6	30		
1,2-Dibromoethane (EDB)	ug/L	<0.10	40	40	40.7	41.1	102	103	75-126	1	30		
1,2-Dichlorobenzene	ug/L	<0.11	40	40	40.0	39.5	100	99	75-125	1	30		
1,2-Dichloroethane	ug/L	<0.10	40	40	40.8	40.7	102	102	75-137	0	30		
1,2-Dichloroethene (Total)	ug/L	<0.19	80	80	84.1	82.9	105	104	70-130	1	30		
1,2-Dichloropropane	ug/L	<0.13	40	40	42.1	41.3	105	103	74-131	2	30		
1,3,5-Trimethylbenzene	ug/L	<0.20	40	40	39.6	38.9	99	97	75-129	2	30		
1,3-Dichlorobenzene	ug/L	<0.20	40	40	38.2	37.6	96	94	75-126	2	30		
1,3-Dichloropropane	ug/L	<0.084	40	40	42.1	41.9	105	105	71-130	1	30		
1,4-Dichlorobenzene	ug/L	<0.12	40	40	38.5	38.6	96	97	73-125	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	<2.4	800	800	834	800	104	100	61-133	4	30		
2,2,4-Trimethylpentane	ug/L	<0.16	40	40	42.8	42.4	107	106	70-130	1	30		
2,2-Dichloropropane	ug/L	<0.13	40	40	42.4	41.4	106	104	45-151	2	30		
2-Butanone (MEK)	ug/L	<0.45	200	200	219	239	109	119	57-143	9	30		
2-Chlorotoluene	ug/L	<0.20	40	40	37.5	36.6	94	92	75-126	2	30		
2-Hexanone	ug/L	<0.35	200	200	229	246	115	123	70-147	7	30		
4-Chlorotoluene	ug/L	<0.088	40	40	39.2	37.4	98	94	75-126	5	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.32	200	200	230	244	115	122	70-145	6	30		
Acetone	ug/L	7.8J	200	200	206	224	99	108	60-141	8	30		
Acrolein	ug/L	<0.93	400	400	343	361	86	90	70-130	5	30		
Acrylonitrile	ug/L	<2.0	400	400	413	439	103	110	70-130	6	30		
Benzene	ug/L	<0.12	40	40	39.2	38.9	98	97	75-125	1	30		
Bromobenzene	ug/L	<0.12	40	40	37.6	37.1	94	93	75-125	1	30		
Bromochloromethane	ug/L	<0.17	40	40	39.3	38.4	98	96	75-126	2	30		
Bromodichloromethane	ug/L	<0.098	40	40	42.0	42.1	105	105	65-137	0	30		
Bromoform	ug/L	<0.18	40	40	38.5	39.1	96	98	60-147	2	30		
Bromomethane	ug/L	<0.25	40	40	41.0	42.5	103	106	30-150	4	30		
Carbon disulfide	ug/L	<0.20	40	40	38.7	37.8	97	95	62-130	2	30		
Carbon tetrachloride	ug/L	<0.12	40	40	41.3	41.2	103	103	45-150	0	30		
Chlorobenzene	ug/L	<0.14	40	40	38.8	38.0	97	95	75-125	2	30		
Chlorodifluoromethane	ug/L	<0.18	40	40	41.1	40.5	103	101	70-130	1	30		
Chloroethane	ug/L	<0.27	40	40	39.5	41.5	99	104	66-145	5	30		
Chloroform	ug/L	<0.098	40	40	42.4	41.7	106	104	74-128	2	30		
Chloromethane	ug/L	<0.15	40	40	42.2	41.1	106	103	51-150	3	30		
cis-1,2-Dichloroethene	ug/L	<0.19	40	40	40.3	39.1	101	98	75-125	3	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Parameter	Units	1272259003		356207		356208		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
cis-1,3-Dichloropropene	ug/L	<0.081	40	40	44.1	43.3	110	108	75-129	2	30		
Dibromochloromethane	ug/L	<0.13	40	40	41.8	42.1	105	105	66-141	1	30		
Dibromomethane	ug/L	<0.13	40	40	38.6	38.8	97	97	73-139	0	30		
Dichlorodifluoromethane	ug/L	<0.16	40	40	37.4	36.3	94	91	36-149	3	30		
Dichlorofluoromethane	ug/L	<0.14	40	40	41.2	40.7	103	102	70-130	1	30		
Diisopropyl ether	ug/L	<0.080	40	40	44.3	44.1	111	110	75-130	1	30		
Ethyl-tert-butyl ether	ug/L	<0.19	40	40	43.8	43.4	109	109	73-128	1	30		
Ethylbenzene	ug/L	0.15J	40	40	39.5	38.7	98	96	74-125	2	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	40	40	39.6	39.3	99	98	64-134	1	30		
Isopropylbenzene (Cumene)	ug/L	<0.094	40	40	40.3	39.3	101	98	75-127	2	30		
m&p-Xylene	ug/L	<0.50	80	80	75.8	75.0	94	93	63-130	1	30		
Methyl-tert-butyl ether	ug/L	<0.086	40	40	42.3	42.0	106	105	73-129	1	30		
Methylene Chloride	ug/L	<0.11	40	40	40.1	39.9	100	100	74-125	0	30		
n-Butylbenzene	ug/L	<0.19	40	40	42.3	41.2	106	103	58-132	2	30		
n-Propylbenzene	ug/L	<0.20	40	40	39.8	39.3	99	98	75-128	1	30		
Naphthalene	ug/L	0.068J	40	40	40.5	41.9	101	105	60-133	3	30		
o-Xylene	ug/L	0.29J	40	40	38.4	38.3	95	95	66-129	0	30		
p-Isopropyltoluene	ug/L	<0.064	40	40	39.9	38.8	100	97	70-132	3	30		
sec-Butylbenzene	ug/L	<0.064	40	40	39.8	38.9	100	97	70-130	2	30		
Styrene	ug/L	<0.20	40	40	40.4	39.4	101	98	71-127	3	30		
tert-Amylmethyl ether	ug/L	<0.059	40	40	40.9	41.0	102	102	75-126	0	30		
tert-Butyl Alcohol	ug/L	<2.0	400	400	410	409	102	102	65-128	0	30		
tert-Butylbenzene	ug/L	<0.19	40	40	40.0	39.1	100	98	75-128	2	30		
Tetrachloroethene	ug/L	<0.12	40	40	39.5	39.1	99	98	75-135	1	30		
Tetrahydrofuran	ug/L	<1.7	400	400	396	438	99	109	68-147	10	30		
Toluene	ug/L	0.43J	40	40	40.9	40.2	101	100	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	<0.11	40	40	40.8	40.2	102	101	75-125	1	30		
trans-1,3-Dichloropropene	ug/L	<0.089	40	40	43.8	43.7	109	109	67-139	0	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.30	100	100	99.5	104	100	104	70-130	4	30		
Trichloroethene	ug/L	<0.11	40	40	39.0	38.7	98	97	75-130	1	30		
Trichlorofluoromethane	ug/L	<0.12	40	40	40.2	39.5	100	99	57-144	2	30		
Vinyl acetate	ug/L	<0.28	40	40	43.0	43.2	107	108	73-130	1	30		
Vinyl chloride	ug/L	<0.20	40	40	40.3	39.6	101	99	70-136	2	30		
Xylene (Total)	ug/L	<0.50	120	120	114	113	95	94	61-129	1	30		
1,2-Dichloroethane-d4 (S)	%.						103	105	70-130				
4-Bromofluorobenzene (S)	%.						95	96	70-130				
Toluene-d8 (S)	%.						102	101	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 661508.10.02.30 UPRR Freeman

Pace Project No.: 1272259

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1272259001	MW2S-1608	EPA 8260B	90576		
1272259002	MW20FD-1608	EPA 8260B	90576		
1272259003	MW5-1608	EPA 8260B	90576		
1272259004	TRIP BLANK	EPA 8260B	90576		
1272259005	MW1S-1608	EPA 8260B	90576		
1272259006	MW1D-1608	EPA 8260B	90576		
1272259007	MW6S-1608	EPA 8260B	90576		
1272259008	MW10-1608	EPA 8260B	90576		
1272259009	MW12-1608	EPA 8260B	90576		
1272259010	EB-01	EPA 8260B	90576		
1272259011	MW4-1608	EPA 8260B	90576		
1272259012	MW40FD-1608	EPA 8260B	90576		
1272259013	MW11-1608	EPA 8260B	90576		
1272259014	MW30FD-1608	EPA 8260B	90576		
1272259015	W20-1608	EPA 8260B	90576		
1272259016	W26-1608	EPA 8260B	90576		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt
 Client Name: UPRR - CH2M
 Project #: _____

WO# : 1272259

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other: _____
 Tracking Number: 7021 4574 9651

Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____
 Temp Blank? Yes No

Thermom. Used: DA1434 DA2285
 Type of Ice: Wet Blue Dry Ice None Samples on ice, cooling process has begun

Cooler Temp Read(*C): 4.6
 Cooler Temp Corrected(*C): 5.1
 Temp should be above freezing to 6°C
 Correction Factor: +0.5
 Biological Tissue Frozen? Yes No N/A
 Date and Initials of Person Examining Contents: EJ 080916

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. <u>Sample -001 has "MW-2-1608" on the container labels. The</u>
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample # <u>times and dates match the COC for sample -001. All other containers match the</u>
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____
 Field Data Required? Yes No

Project Manager Review: JENNI GROSS Date: 08/09/16
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

August 24, 2016

Mark Ochsner
CH2M Hill
2020 SW 4th Avenue
Portland, OR 97201

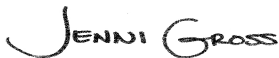
RE: Project: UPRR Freeman
Pace Project No.: 1273217

Dear Mark Ochsner:

Enclosed are the analytical results for sample(s) received by the laboratory on August 23, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR Freeman

Pace Project No.: 1273217

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618

North Dakota Certification #: R-214

Oregon Certification #: CA300002

Washington Certification #: C926-15a

California Certification #: 08263CA

Minnesota Department of Health Certification #: 006-999-465

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR Freeman

Pace Project No.: 1273217

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1273217001	MW6D-0816	Water	08/19/16 09:25	08/23/16 09:45
1273217002	Randall-0816	Water	08/19/16 10:15	08/23/16 09:45
1273217003	Marlow-0816	Water	08/19/16 10:25	08/23/16 09:45
1273217004	Freeman Store-0816	Water	08/19/16 10:45	08/23/16 09:45
1273217005	Trip Blank	Water	08/19/16 00:00	08/23/16 09:45

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SAMPLE ANALYTE COUNT

Project: UPRR Freeman
Pace Project No.: 1273217

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1273217001	MW6D-0816	EPA 8260B	JCP	84	PASI-DAV
1273217002	Randall-0816	EPA 8260B	JCP	84	PASI-DAV
1273217003	Marlow-0816	EPA 8260B	JCP	84	PASI-DAV
1273217004	Freeman Store-0816	EPA 8260B	JCP	84	PASI-DAV
1273217005	Trip Blank	EPA 8260B	JCP	84	PASI-DAV

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR Freeman
Pace Project No.: 1273217

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1273217001	MW6D-0816					
EPA 8260B	1,2-Dichloroethane	0.32J	ug/L	0.50	08/23/16 20:06	
EPA 8260B	Carbon tetrachloride	2.0	ug/L	0.50	08/23/16 20:06	
EPA 8260B	Naphthalene	0.077J	ug/L	0.50	08/23/16 20:06	B
1273217002	Randall-0816					
EPA 8260B	Carbon tetrachloride	287	ug/L	1.0	08/23/16 17:46	
EPA 8260B	Chloroform	15.2	ug/L	1.0	08/23/16 17:46	
1273217003	Marlow-0816					
EPA 8260B	Acetone	2.5J	ug/L	10.0	08/23/16 20:26	
EPA 8260B	Carbon tetrachloride	123	ug/L	0.50	08/23/16 20:26	
EPA 8260B	Chloroform	9.0	ug/L	0.50	08/23/16 20:26	
1273217004	Freeman Store-0816					
EPA 8260B	Acetone	2.9J	ug/L	10.0	08/23/16 20:46	
1273217005	Trip Blank					
EPA 8260B	Acetone	4.5J	ug/L	10.0	08/23/16 19:26	
EPA 8260B	Naphthalene	0.14J	ug/L	0.50	08/23/16 19:26	B
EPA 8260B	Toluene	0.52	ug/L	0.50	08/23/16 19:26	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman

Pace Project No.: 1273217

Method: EPA 8260B

Description: 8260 MSV Med Water

Client: UPRR_CH2M Hill

Date: August 24, 2016

General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

B: Analyte was detected in the associated method blank.

- MW6D-0816 (Lab ID: 1273217001)
- Trip Blank (Lab ID: 1273217005)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 91967

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 361591)
- Diisopropyl ether

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 91967

B: Analyte was detected in the associated method blank.

- MW6D-0816 (Lab ID: 1273217001)
- Naphthalene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman

Pace Project No.: 1273217

Method: EPA 8260B

Description: 8260 MSV Med Water

Client: UPRR_CH2M Hill

Date: August 24, 2016

Analyte Comments:

QC Batch: 91967

B: Analyte was detected in the associated method blank.

- Trip Blank (Lab ID: 1273217005)
- Naphthalene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: **MW6D-0816** Lab ID: **1273217001** Collected: 08/19/16 09:25 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/23/16 20:06	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/23/16 20:06	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/23/16 20:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/23/16 20:06	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/23/16 20:06	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/23/16 20:06	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/23/16 20:06	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/23/16 20:06	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/23/16 20:06	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:06	95-50-1	
1,2-Dichloroethane	0.32J	ug/L	0.50	0.10	1		08/23/16 20:06	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:06	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/23/16 20:06	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/23/16 20:06	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/23/16 20:06	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/23/16 20:06	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/23/16 20:06	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/23/16 20:06	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/23/16 20:06	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/23/16 20:06	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/23/16 20:06	108-10-1	
Acetone	<1.7	ug/L	10.0	1.7	1		08/23/16 20:06	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/23/16 20:06	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/23/16 20:06	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/23/16 20:06	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/23/16 20:06	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/23/16 20:06	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/23/16 20:06	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	75-15-0	
Carbon tetrachloride	2.0	ug/L	0.50	0.12	1		08/23/16 20:06	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/23/16 20:06	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/23/16 20:06	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/23/16 20:06	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/23/16 20:06	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/23/16 20:06	74-87-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: **MW6D-0816** Lab ID: **1273217001** Collected: 08/19/16 09:25 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:06	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:06	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/23/16 20:06	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/23/16 20:06	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/23/16 20:06	108-20-3	L3
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/23/16 20:06	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/23/16 20:06	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/23/16 20:06	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/23/16 20:06	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/23/16 20:06	75-09-2	
Naphthalene	0.077J	ug/L	0.50	0.068	1		08/23/16 20:06	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/23/16 20:06	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/23/16 20:06	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:06	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:06	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/23/16 20:06	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/23/16 20:06	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/23/16 20:06	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/23/16 20:06	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:06	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:06	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/23/16 20:06	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/23/16 20:06	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/23/16 20:06	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/23/16 20:06	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:06	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:06	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/23/16 20:06	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/23/16 20:06	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		08/23/16 20:06	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/23/16 20:06	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1		08/23/16 20:06	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman
Pace Project No.: 1273217

Sample: **Randall-0816** Lab ID: **1273217002** Collected: 08/19/16 10:15 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.16	ug/L	1.0	0.16	2		08/23/16 17:46	630-20-6	
1,1,1-Trichloroethane	<0.28	ug/L	1.0	0.28	2		08/23/16 17:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	2		08/23/16 17:46	79-34-5	
1,1,2-Trichloroethane	<0.31	ug/L	1.0	0.31	2		08/23/16 17:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.39	ug/L	1.0	0.39	2		08/23/16 17:46	76-13-1	
1,1-Dichloroethane	<0.25	ug/L	1.0	0.25	2		08/23/16 17:46	75-34-3	
1,1-Dichloroethene	<0.37	ug/L	1.0	0.37	2		08/23/16 17:46	75-35-4	
1,1-Dichloropropene	<0.38	ug/L	1.0	0.38	2		08/23/16 17:46	563-58-6	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	2		08/23/16 17:46	87-61-6	
1,2,3-Trichloropropane	<0.40	ug/L	1.0	0.40	2		08/23/16 17:46	96-18-4	
1,2,4-Trichlorobenzene	<0.19	ug/L	1.0	0.19	2		08/23/16 17:46	120-82-1	
1,2,4-Trimethylbenzene	<0.16	ug/L	1.0	0.16	2		08/23/16 17:46	95-63-6	
1,2-Dibromo-3-chloropropane	<0.50	ug/L	4.0	0.50	2		08/23/16 17:46	96-12-8	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	2		08/23/16 17:46	106-93-4	
1,2-Dichlorobenzene	<0.23	ug/L	1.0	0.23	2		08/23/16 17:46	95-50-1	
1,2-Dichloroethane	<0.21	ug/L	1.0	0.21	2		08/23/16 17:46	107-06-2	
1,2-Dichloroethene (Total)	<0.38	ug/L	1.0	0.38	2		08/23/16 17:46	540-59-0	
1,2-Dichloropropane	<0.27	ug/L	1.0	0.27	2		08/23/16 17:46	78-87-5	
1,3,5-Trimethylbenzene	<0.39	ug/L	1.0	0.39	2		08/23/16 17:46	108-67-8	
1,3-Dichlorobenzene	<0.40	ug/L	1.0	0.40	2		08/23/16 17:46	541-73-1	
1,3-Dichloropropane	<0.17	ug/L	1.0	0.17	2		08/23/16 17:46	142-28-9	
1,4-Dichlorobenzene	<0.24	ug/L	1.0	0.24	2		08/23/16 17:46	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	80.0	4.8	2		08/23/16 17:46	123-91-1	
2,2,4-Trimethylpentane	<0.32	ug/L	8.0	0.32	2		08/23/16 17:46	540-84-1	
2,2-Dichloropropane	<0.26	ug/L	4.0	0.26	2		08/23/16 17:46	594-20-7	
2-Butanone (MEK)	<0.91	ug/L	10.0	0.91	2		08/23/16 17:46	78-93-3	
2-Chlorotoluene	<0.40	ug/L	2.0	0.40	2		08/23/16 17:46	95-49-8	
2-Hexanone	<0.70	ug/L	10.0	0.70	2		08/23/16 17:46	591-78-6	
4-Chlorotoluene	<0.18	ug/L	2.0	0.18	2		08/23/16 17:46	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.64	ug/L	10.0	0.64	2		08/23/16 17:46	108-10-1	
Acetone	<3.3	ug/L	20.0	3.3	2		08/23/16 17:46	67-64-1	
Acrolein	<1.9	ug/L	10.0	1.9	2		08/23/16 17:46	107-02-8	
Acrylonitrile	<3.9	ug/L	10.0	3.9	2		08/23/16 17:46	107-13-1	
Benzene	<0.24	ug/L	1.0	0.24	2		08/23/16 17:46	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	2		08/23/16 17:46	108-86-1	
Bromochloromethane	<0.33	ug/L	1.0	0.33	2		08/23/16 17:46	74-97-5	
Bromodichloromethane	<0.20	ug/L	1.0	0.20	2		08/23/16 17:46	75-27-4	
Bromoform	<0.36	ug/L	1.0	0.36	2		08/23/16 17:46	75-25-2	
Bromomethane	<0.50	ug/L	40.0	0.50	2		08/23/16 17:46	74-83-9	
Carbon disulfide	<0.39	ug/L	1.0	0.39	2		08/23/16 17:46	75-15-0	
Carbon tetrachloride	287	ug/L	1.0	0.23	2		08/23/16 17:46	56-23-5	
Chlorobenzene	<0.27	ug/L	1.0	0.27	2		08/23/16 17:46	108-90-7	
Chlorodifluoromethane	<0.35	ug/L	10.0	0.35	2		08/23/16 17:46	75-45-6	
Chloroethane	<0.53	ug/L	4.0	0.53	2		08/23/16 17:46	75-00-3	
Chloroform	15.2	ug/L	1.0	0.20	2		08/23/16 17:46	67-66-3	
Chloromethane	<0.29	ug/L	4.0	0.29	2		08/23/16 17:46	74-87-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: **Randall-0816** Lab ID: **1273217002** Collected: 08/19/16 10:15 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.26	ug/L	1.0	0.26	2		08/23/16 17:46	124-48-1	
Dibromomethane	<0.25	ug/L	1.0	0.25	2		08/23/16 17:46	74-95-3	
Dichlorodifluoromethane	<0.32	ug/L	1.0	0.32	2		08/23/16 17:46	75-71-8	
Dichlorofluoromethane	<0.28	ug/L	1.0	0.28	2		08/23/16 17:46	75-43-4	
Diisopropyl ether	<0.16	ug/L	1.0	0.16	2		08/23/16 17:46	108-20-3	L3
Ethyl-tert-butyl ether	<0.37	ug/L	1.0	0.37	2		08/23/16 17:46	637-92-3	
Ethylbenzene	<0.20	ug/L	1.0	0.20	2		08/23/16 17:46	100-41-4	
Hexachloro-1,3-butadiene	<0.26	ug/L	1.0	0.26	2		08/23/16 17:46	87-68-3	
Isopropylbenzene (Cumene)	<0.19	ug/L	1.0	0.19	2		08/23/16 17:46	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	2		08/23/16 17:46	1634-04-4	
Methylene Chloride	<0.22	ug/L	10.0	0.22	2		08/23/16 17:46	75-09-2	
Naphthalene	<0.14	ug/L	1.0	0.14	2		08/23/16 17:46	91-20-3	
Styrene	<0.40	ug/L	1.0	0.40	2		08/23/16 17:46	100-42-5	
Tetrachloroethene	<0.24	ug/L	1.0	0.24	2		08/23/16 17:46	127-18-4	
Tetrahydrofuran	<3.4	ug/L	10.0	3.4	2		08/23/16 17:46	109-99-9	
Toluene	<0.21	ug/L	1.0	0.21	2		08/23/16 17:46	108-88-3	
Trichloroethene	<0.22	ug/L	1.0	0.22	2		08/23/16 17:46	79-01-6	
Trichlorofluoromethane	<0.24	ug/L	1.0	0.24	2		08/23/16 17:46	75-69-4	
Vinyl acetate	<0.56	ug/L	10.0	0.56	2		08/23/16 17:46	108-05-4	
Vinyl chloride	<0.40	ug/L	1.0	0.40	2		08/23/16 17:46	75-01-4	
Xylene (Total)	<1.0	ug/L	3.0	1.0	2		08/23/16 17:46	1330-20-7	
cis-1,2-Dichloroethene	<0.38	ug/L	1.0	0.38	2		08/23/16 17:46	156-59-2	
cis-1,3-Dichloropropene	<0.16	ug/L	1.0	0.16	2		08/23/16 17:46	10061-01-5	
m&p-Xylene	<1.0	ug/L	2.0	1.0	2		08/23/16 17:46	179601-23-1	
n-Butylbenzene	<0.38	ug/L	1.0	0.38	2		08/23/16 17:46	104-51-8	
n-Propylbenzene	<0.39	ug/L	1.0	0.39	2		08/23/16 17:46	103-65-1	
o-Xylene	<0.22	ug/L	1.0	0.22	2		08/23/16 17:46	95-47-6	
p-Isopropyltoluene	<0.13	ug/L	1.0	0.13	2		08/23/16 17:46	99-87-6	
sec-Butylbenzene	<0.13	ug/L	1.0	0.13	2		08/23/16 17:46	135-98-8	
tert-Amylmethyl ether	<0.12	ug/L	1.0	0.12	2		08/23/16 17:46	994-05-8	
tert-Butyl Alcohol	<4.1	ug/L	10.0	4.1	2		08/23/16 17:46	75-65-0	
tert-Butylbenzene	<0.37	ug/L	1.0	0.37	2		08/23/16 17:46	98-06-6	
trans-1,2-Dichloroethene	<0.21	ug/L	1.0	0.21	2		08/23/16 17:46	156-60-5	
trans-1,3-Dichloropropene	<0.18	ug/L	1.0	0.18	2		08/23/16 17:46	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.59	ug/L	10.0	0.59	2		08/23/16 17:46	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	70-130		2		08/23/16 17:46	17060-07-0	
Toluene-d8 (S)	102	%	70-130		2		08/23/16 17:46	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		2		08/23/16 17:46	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: Marlow-0816 **Lab ID: 1273217003** Collected: 08/19/16 10:25 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/23/16 20:26	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/23/16 20:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/23/16 20:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/23/16 20:26	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/23/16 20:26	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/23/16 20:26	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/23/16 20:26	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/23/16 20:26	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/23/16 20:26	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:26	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/23/16 20:26	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:26	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/23/16 20:26	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/23/16 20:26	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/23/16 20:26	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/23/16 20:26	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/23/16 20:26	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/23/16 20:26	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/23/16 20:26	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/23/16 20:26	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/23/16 20:26	108-10-1	
Acetone	2.5J	ug/L	10.0	1.7	1		08/23/16 20:26	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/23/16 20:26	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/23/16 20:26	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/23/16 20:26	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/23/16 20:26	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/23/16 20:26	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/23/16 20:26	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	75-15-0	
Carbon tetrachloride	123	ug/L	0.50	0.12	1		08/23/16 20:26	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/23/16 20:26	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/23/16 20:26	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/23/16 20:26	75-00-3	
Chloroform	9.0	ug/L	0.50	0.098	1		08/23/16 20:26	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/23/16 20:26	74-87-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: Marlow-0816 Lab ID: 1273217003 Collected: 08/19/16 10:25 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:26	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:26	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/23/16 20:26	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/23/16 20:26	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/23/16 20:26	108-20-3	L3
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/23/16 20:26	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/23/16 20:26	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/23/16 20:26	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/23/16 20:26	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/23/16 20:26	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/23/16 20:26	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/23/16 20:26	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/23/16 20:26	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:26	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:26	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/23/16 20:26	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/23/16 20:26	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/23/16 20:26	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/23/16 20:26	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:26	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:26	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/23/16 20:26	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/23/16 20:26	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/23/16 20:26	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/23/16 20:26	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:26	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:26	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/23/16 20:26	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/23/16 20:26	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		08/23/16 20:26	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/23/16 20:26	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1		08/23/16 20:26	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman
Pace Project No.: 1273217

Sample: **Freeman Store-0816** Lab ID: **1273217004** Collected: 08/19/16 10:45 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/23/16 20:46	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/23/16 20:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/23/16 20:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/23/16 20:46	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/23/16 20:46	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/23/16 20:46	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/23/16 20:46	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/23/16 20:46	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/23/16 20:46	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:46	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/23/16 20:46	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:46	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/23/16 20:46	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/23/16 20:46	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/23/16 20:46	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/23/16 20:46	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/23/16 20:46	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/23/16 20:46	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/23/16 20:46	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/23/16 20:46	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/23/16 20:46	108-10-1	
Acetone	2.9J	ug/L	10.0	1.7	1		08/23/16 20:46	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/23/16 20:46	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/23/16 20:46	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/23/16 20:46	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/23/16 20:46	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/23/16 20:46	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/23/16 20:46	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/23/16 20:46	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/23/16 20:46	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/23/16 20:46	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/23/16 20:46	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/23/16 20:46	74-87-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Project No.: 1273217

Sample: Freeman Store-0816 **Lab ID: 1273217004** Collected: 08/19/16 10:45 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:46	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/23/16 20:46	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/23/16 20:46	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/23/16 20:46	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/23/16 20:46	108-20-3	L3
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/23/16 20:46	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/23/16 20:46	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/23/16 20:46	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/23/16 20:46	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/23/16 20:46	75-09-2	
Naphthalene	<0.068	ug/L	0.50	0.068	1		08/23/16 20:46	91-20-3	
Styrene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/23/16 20:46	109-99-9	
Toluene	<0.10	ug/L	0.50	0.10	1		08/23/16 20:46	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:46	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/23/16 20:46	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/23/16 20:46	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/23/16 20:46	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/23/16 20:46	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/23/16 20:46	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 20:46	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:46	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/23/16 20:46	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/23/16 20:46	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/23/16 20:46	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/23/16 20:46	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 20:46	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 20:46	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/23/16 20:46	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/23/16 20:46	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		08/23/16 20:46	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		08/23/16 20:46	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1		08/23/16 20:46	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: Trip Blank Lab ID: 1273217005 Collected: 08/19/16 00:00 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.082	ug/L	0.50	0.082	1		08/23/16 19:26	630-20-6	
1,1,1-Trichloroethane	<0.14	ug/L	0.50	0.14	1		08/23/16 19:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	79-34-5	
1,1,2-Trichloroethane	<0.15	ug/L	0.50	0.15	1		08/23/16 19:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	76-13-1	
1,1-Dichloroethane	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	75-34-3	
1,1-Dichloroethene	<0.18	ug/L	0.50	0.18	1		08/23/16 19:26	75-35-4	
1,1-Dichloropropene	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		08/23/16 19:26	87-61-6	
1,2,3-Trichloropropane	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	96-18-4	
1,2,4-Trichlorobenzene	<0.096	ug/L	0.50	0.096	1		08/23/16 19:26	120-82-1	
1,2,4-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		08/23/16 19:26	95-63-6	
1,2-Dibromo-3-chloropropane	<0.25	ug/L	2.0	0.25	1		08/23/16 19:26	96-12-8	
1,2-Dibromoethane (EDB)	<0.10	ug/L	0.50	0.10	1		08/23/16 19:26	106-93-4	
1,2-Dichlorobenzene	<0.11	ug/L	0.50	0.11	1		08/23/16 19:26	95-50-1	
1,2-Dichloroethane	<0.10	ug/L	0.50	0.10	1		08/23/16 19:26	107-06-2	
1,2-Dichloroethene (Total)	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	540-59-0	
1,2-Dichloropropane	<0.13	ug/L	0.50	0.13	1		08/23/16 19:26	78-87-5	
1,3,5-Trimethylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	108-67-8	
1,3-Dichlorobenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	541-73-1	
1,3-Dichloropropane	<0.084	ug/L	0.50	0.084	1		08/23/16 19:26	142-28-9	
1,4-Dichlorobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	106-46-7	
1,4-Dioxane (p-Dioxane)	<2.4	ug/L	40.0	2.4	1		08/23/16 19:26	123-91-1	
2,2,4-Trimethylpentane	<0.16	ug/L	4.0	0.16	1		08/23/16 19:26	540-84-1	
2,2-Dichloropropane	<0.13	ug/L	2.0	0.13	1		08/23/16 19:26	594-20-7	
2-Butanone (MEK)	<0.45	ug/L	5.0	0.45	1		08/23/16 19:26	78-93-3	
2-Chlorotoluene	<0.20	ug/L	1.0	0.20	1		08/23/16 19:26	95-49-8	
2-Hexanone	<0.35	ug/L	5.0	0.35	1		08/23/16 19:26	591-78-6	
4-Chlorotoluene	<0.088	ug/L	1.0	0.088	1		08/23/16 19:26	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.32	ug/L	5.0	0.32	1		08/23/16 19:26	108-10-1	
Acetone	4.5J	ug/L	10.0	1.7	1		08/23/16 19:26	67-64-1	
Acrolein	<0.93	ug/L	5.0	0.93	1		08/23/16 19:26	107-02-8	
Acrylonitrile	<2.0	ug/L	5.0	2.0	1		08/23/16 19:26	107-13-1	
Benzene	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	71-43-2	
Bromobenzene	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	108-86-1	
Bromochloromethane	<0.17	ug/L	0.50	0.17	1		08/23/16 19:26	74-97-5	
Bromodichloromethane	<0.098	ug/L	0.50	0.098	1		08/23/16 19:26	75-27-4	
Bromoform	<0.18	ug/L	0.50	0.18	1		08/23/16 19:26	75-25-2	
Bromomethane	<0.25	ug/L	20.0	0.25	1		08/23/16 19:26	74-83-9	
Carbon disulfide	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	75-15-0	
Carbon tetrachloride	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	56-23-5	
Chlorobenzene	<0.14	ug/L	0.50	0.14	1		08/23/16 19:26	108-90-7	
Chlorodifluoromethane	<0.18	ug/L	5.0	0.18	1		08/23/16 19:26	75-45-6	
Chloroethane	<0.27	ug/L	2.0	0.27	1		08/23/16 19:26	75-00-3	
Chloroform	<0.098	ug/L	0.50	0.098	1		08/23/16 19:26	67-66-3	
Chloromethane	<0.15	ug/L	2.0	0.15	1		08/23/16 19:26	74-87-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 1273217

Sample: Trip Blank Lab ID: 1273217005 Collected: 08/19/16 00:00 Received: 08/23/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Water		Analytical Method: EPA 8260B							
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		08/23/16 19:26	124-48-1	
Dibromomethane	<0.13	ug/L	0.50	0.13	1		08/23/16 19:26	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	0.50	0.16	1		08/23/16 19:26	75-71-8	
Dichlorofluoromethane	<0.14	ug/L	0.50	0.14	1		08/23/16 19:26	75-43-4	
Diisopropyl ether	<0.080	ug/L	0.50	0.080	1		08/23/16 19:26	108-20-3	L3
Ethyl-tert-butyl ether	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	637-92-3	
Ethylbenzene	<0.098	ug/L	0.50	0.098	1		08/23/16 19:26	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	0.50	0.13	1		08/23/16 19:26	87-68-3	
Isopropylbenzene (Cumene)	<0.094	ug/L	0.50	0.094	1		08/23/16 19:26	98-82-8	
Methyl-tert-butyl ether	<0.086	ug/L	0.50	0.086	1		08/23/16 19:26	1634-04-4	
Methylene Chloride	<0.11	ug/L	5.0	0.11	1		08/23/16 19:26	75-09-2	
Naphthalene	0.14J	ug/L	0.50	0.068	1		08/23/16 19:26	91-20-3	B
Styrene	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	127-18-4	
Tetrahydrofuran	<1.7	ug/L	5.0	1.7	1		08/23/16 19:26	109-99-9	
Toluene	0.52	ug/L	0.50	0.10	1		08/23/16 19:26	108-88-3	
Trichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 19:26	79-01-6	
Trichlorofluoromethane	<0.12	ug/L	0.50	0.12	1		08/23/16 19:26	75-69-4	
Vinyl acetate	<0.28	ug/L	5.0	0.28	1		08/23/16 19:26	108-05-4	
Vinyl chloride	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	75-01-4	
Xylene (Total)	<0.50	ug/L	1.5	0.50	1		08/23/16 19:26	1330-20-7	
cis-1,2-Dichloroethene	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	156-59-2	
cis-1,3-Dichloropropene	<0.081	ug/L	0.50	0.081	1		08/23/16 19:26	10061-01-5	
m&p-Xylene	<0.50	ug/L	1.0	0.50	1		08/23/16 19:26	179601-23-1	
n-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	104-51-8	
n-Propylbenzene	<0.20	ug/L	0.50	0.20	1		08/23/16 19:26	103-65-1	
o-Xylene	<0.11	ug/L	0.50	0.11	1		08/23/16 19:26	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/23/16 19:26	99-87-6	
sec-Butylbenzene	<0.064	ug/L	0.50	0.064	1		08/23/16 19:26	135-98-8	
tert-Amylmethyl ether	<0.059	ug/L	0.50	0.059	1		08/23/16 19:26	994-05-8	
tert-Butyl Alcohol	<2.0	ug/L	5.0	2.0	1		08/23/16 19:26	75-65-0	
tert-Butylbenzene	<0.19	ug/L	0.50	0.19	1		08/23/16 19:26	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		08/23/16 19:26	156-60-5	
trans-1,3-Dichloropropene	<0.089	ug/L	0.50	0.089	1		08/23/16 19:26	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.30	ug/L	5.0	0.30	1		08/23/16 19:26	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		08/23/16 19:26	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		08/23/16 19:26	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1		08/23/16 19:26	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 1273217

QC Batch: 91967 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV Med Water
Associated Lab Samples: 1273217001, 1273217002, 1273217003, 1273217004, 1273217005

METHOD BLANK: 361590 Matrix: Water
Associated Lab Samples: 1273217001, 1273217002, 1273217003, 1273217004, 1273217005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.082	0.50	0.082	08/23/16 17:26	
1,1,1-Trichloroethane	ug/L	<0.14	0.50	0.14	08/23/16 17:26	
1,1,2,2-Tetrachloroethane	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
1,1,2-Trichloroethane	ug/L	<0.15	0.50	0.15	08/23/16 17:26	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
1,1-Dichloroethane	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
1,1-Dichloroethene	ug/L	<0.18	0.50	0.18	08/23/16 17:26	
1,1-Dichloropropene	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
1,2,3-Trichlorobenzene	ug/L	<0.10	0.50	0.10	08/23/16 17:26	
1,2,3-Trichloropropane	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
1,2,4-Trichlorobenzene	ug/L	<0.096	0.50	0.096	08/23/16 17:26	
1,2,4-Trimethylbenzene	ug/L	<0.078	0.50	0.078	08/23/16 17:26	
1,2-Dibromo-3-chloropropane	ug/L	<0.25	2.0	0.25	08/23/16 17:26	
1,2-Dibromoethane (EDB)	ug/L	<0.10	0.50	0.10	08/23/16 17:26	
1,2-Dichlorobenzene	ug/L	<0.11	0.50	0.11	08/23/16 17:26	
1,2-Dichloroethane	ug/L	<0.10	0.50	0.10	08/23/16 17:26	
1,2-Dichloroethene (Total)	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
1,2-Dichloropropane	ug/L	<0.13	0.50	0.13	08/23/16 17:26	
1,3,5-Trimethylbenzene	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
1,3-Dichlorobenzene	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
1,3-Dichloropropane	ug/L	<0.084	0.50	0.084	08/23/16 17:26	
1,4-Dichlorobenzene	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
1,4-Dioxane (p-Dioxane)	ug/L	<2.4	40.0	2.4	08/23/16 17:26	
2,2,4-Trimethylpentane	ug/L	<0.16	4.0	0.16	08/23/16 17:26	
2,2-Dichloropropane	ug/L	<0.13	2.0	0.13	08/23/16 17:26	
2-Butanone (MEK)	ug/L	<0.45	5.0	0.45	08/23/16 17:26	
2-Chlorotoluene	ug/L	<0.20	1.0	0.20	08/23/16 17:26	
2-Hexanone	ug/L	<0.35	5.0	0.35	08/23/16 17:26	
4-Chlorotoluene	ug/L	<0.088	1.0	0.088	08/23/16 17:26	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.32	5.0	0.32	08/23/16 17:26	
Acetone	ug/L	<1.7	10.0	1.7	08/23/16 17:26	
Acrolein	ug/L	<0.93	5.0	0.93	08/23/16 17:26	
Acrylonitrile	ug/L	<2.0	5.0	2.0	08/23/16 17:26	
Benzene	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
Bromobenzene	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
Bromochloromethane	ug/L	<0.17	0.50	0.17	08/23/16 17:26	
Bromodichloromethane	ug/L	<0.098	0.50	0.098	08/23/16 17:26	
Bromoform	ug/L	<0.18	0.50	0.18	08/23/16 17:26	
Bromomethane	ug/L	<0.25	20.0	0.25	08/23/16 17:26	
Carbon disulfide	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
Carbon tetrachloride	ug/L	<0.12	0.50	0.12	08/23/16 17:26	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 1273217

METHOD BLANK: 361590

Matrix: Water

Associated Lab Samples: 1273217001, 1273217002, 1273217003, 1273217004, 1273217005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.14	0.50	0.14	08/23/16 17:26	
Chlorodifluoromethane	ug/L	<0.18	5.0	0.18	08/23/16 17:26	
Chloroethane	ug/L	<0.27	2.0	0.27	08/23/16 17:26	
Chloroform	ug/L	<0.098	0.50	0.098	08/23/16 17:26	
Chloromethane	ug/L	<0.15	2.0	0.15	08/23/16 17:26	
cis-1,2-Dichloroethene	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
cis-1,3-Dichloropropene	ug/L	<0.081	0.50	0.081	08/23/16 17:26	
Dibromochloromethane	ug/L	<0.13	0.50	0.13	08/23/16 17:26	
Dibromomethane	ug/L	<0.13	0.50	0.13	08/23/16 17:26	
Dichlorodifluoromethane	ug/L	<0.16	0.50	0.16	08/23/16 17:26	
Dichlorofluoromethane	ug/L	<0.14	0.50	0.14	08/23/16 17:26	
Diisopropyl ether	ug/L	<0.080	0.50	0.080	08/23/16 17:26	
Ethyl-tert-butyl ether	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
Ethylbenzene	ug/L	<0.098	0.50	0.098	08/23/16 17:26	
Hexachloro-1,3-butadiene	ug/L	<0.13	0.50	0.13	08/23/16 17:26	
Isopropylbenzene (Cumene)	ug/L	<0.094	0.50	0.094	08/23/16 17:26	
m&p-Xylene	ug/L	<0.50	1.0	0.50	08/23/16 17:26	
Methyl-tert-butyl ether	ug/L	<0.086	0.50	0.086	08/23/16 17:26	
Methylene Chloride	ug/L	<0.11	5.0	0.11	08/23/16 17:26	
n-Butylbenzene	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
n-Propylbenzene	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
Naphthalene	ug/L	0.074J	0.50	0.068	08/23/16 17:26	
o-Xylene	ug/L	<0.11	0.50	0.11	08/23/16 17:26	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	08/23/16 17:26	
sec-Butylbenzene	ug/L	<0.064	0.50	0.064	08/23/16 17:26	
Styrene	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
tert-Amylmethyl ether	ug/L	<0.059	0.50	0.059	08/23/16 17:26	
tert-Butyl Alcohol	ug/L	<2.0	5.0	2.0	08/23/16 17:26	
tert-Butylbenzene	ug/L	<0.19	0.50	0.19	08/23/16 17:26	
Tetrachloroethene	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
Tetrahydrofuran	ug/L	<1.7	5.0	1.7	08/23/16 17:26	
Toluene	ug/L	<0.10	0.50	0.10	08/23/16 17:26	
trans-1,2-Dichloroethene	ug/L	<0.11	0.50	0.11	08/23/16 17:26	
trans-1,3-Dichloropropene	ug/L	<0.089	0.50	0.089	08/23/16 17:26	
trans-1,4-Dichloro-2-butene	ug/L	<0.30	5.0	0.30	08/23/16 17:26	
Trichloroethene	ug/L	<0.11	0.50	0.11	08/23/16 17:26	
Trichlorofluoromethane	ug/L	<0.12	0.50	0.12	08/23/16 17:26	
Vinyl acetate	ug/L	<0.28	5.0	0.28	08/23/16 17:26	
Vinyl chloride	ug/L	<0.20	0.50	0.20	08/23/16 17:26	
Xylene (Total)	ug/L	<0.50	1.5	0.50	08/23/16 17:26	
1,2-Dichloroethane-d4 (S)	%	113	70-130		08/23/16 17:26	
4-Bromofluorobenzene (S)	%	84	70-130		08/23/16 17:26	
Toluene-d8 (S)	%	101	70-130		08/23/16 17:26	

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 1273217

LABORATORY CONTROL SAMPLE: 361591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	40	37.4	94	72-134	
1,1,1-Trichloroethane	ug/L	40	42.3	106	67-138	
1,1,2,2-Tetrachloroethane	ug/L	40	41.2	103	75-125	
1,1,2-Trichloroethane	ug/L	40	43.8	109	75-126	
1,1,2-Trichlorotrifluoroethane	ug/L	40	38.5	96	74-127	
1,1-Dichloroethane	ug/L	40	45.8	115	71-131	
1,1-Dichloroethene	ug/L	40	38.9	97	74-126	
1,1-Dichloropropene	ug/L	40	43.1	108	73-126	
1,2,3-Trichlorobenzene	ug/L	40	36.2	91	75-125	
1,2,3-Trichloropropane	ug/L	40	39.9	100	74-126	
1,2,4-Trichlorobenzene	ug/L	40	36.3	91	75-127	
1,2,4-Trimethylbenzene	ug/L	40	37.6	94	75-127	
1,2-Dibromo-3-chloropropane	ug/L	100	106	106	51-150	
1,2-Dibromoethane (EDB)	ug/L	40	41.2	103	74-128	
1,2-Dichlorobenzene	ug/L	40	39.7	99	75-125	
1,2-Dichloroethane	ug/L	40	44.7	112	64-141	
1,2-Dichloroethene (Total)	ug/L	80	86.5	108	70-130	
1,2-Dichloropropane	ug/L	40	45.5	114	73-127	
1,3,5-Trimethylbenzene	ug/L	40	38.0	95	75-127	
1,3-Dichlorobenzene	ug/L	40	34.7	87	75-125	
1,3-Dichloropropane	ug/L	40	44.0	110	73-129	
1,4-Dichlorobenzene	ug/L	40	38.9	97	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	800	791	99	70-130	
2,2,4-Trimethylpentane	ug/L	40	45.4	114	70-130	
2,2-Dichloropropane	ug/L	40	43.9	110	49-150	
2-Butanone (MEK)	ug/L	200	266	133	61-144	
2-Chlorotoluene	ug/L	40	35.4	88	75-125	
2-Hexanone	ug/L	200	274	137	64-144	
4-Chlorotoluene	ug/L	40	36.5	91	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	200	273	136	67-140	
Acetone	ug/L	200	248	124	56-140	
Acrolein	ug/L	400	429	107	70-130	
Acrylonitrile	ug/L	400	491	123	70-130	
Benzene	ug/L	40	41.3	103	75-125	
Bromobenzene	ug/L	40	34.7	87	75-125	
Bromochloromethane	ug/L	40	38.1	95	75-126	
Bromodichloromethane	ug/L	40	44.8	112	70-134	
Bromoform	ug/L	40	35.4	88	68-130	
Bromomethane	ug/L	40	38.2	96	30-150	
Carbon disulfide	ug/L	40	38.5	96	75-125	
Carbon tetrachloride	ug/L	40	42.1	105	66-135	
Chlorobenzene	ug/L	40	37.2	93	75-125	
Chlorodifluoromethane	ug/L	40	43.1	108	70-130	
Chloroethane	ug/L	40	43.7	109	55-150	
Chloroform	ug/L	40	44.5	111	72-131	
Chloromethane	ug/L	40	43.6	109	54-132	
cis-1,2-Dichloroethene	ug/L	40	41.0	102	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 1273217

LABORATORY CONTROL SAMPLE: 361591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/L	40	45.6	114	74-130	
Dibromochloromethane	ug/L	40	41.7	104	70-132	
Dibromomethane	ug/L	40	35.6	89	72-135	
Dichlorodifluoromethane	ug/L	40	32.2	80	41-150	
Dichlorofluoromethane	ug/L	40	43.1	108	70-130	
Diisopropyl ether	ug/L	40	50.7	127	75-126	LO
Ethyl-tert-butyl ether	ug/L	40	47.1	118	75-125	
Ethylbenzene	ug/L	40	38.9	97	75-125	
Hexachloro-1,3-butadiene	ug/L	40	34.3	86	75-131	
Isopropylbenzene (Cumene)	ug/L	40	38.4	96	75-125	
m&p-Xylene	ug/L	80	72.7	91	75-125	
Methyl-tert-butyl ether	ug/L	40	44.6	111	73-125	
Methylene Chloride	ug/L	40	41.1	103	68-125	
n-Butylbenzene	ug/L	40	43.7	109	68-134	
n-Propylbenzene	ug/L	40	38.8	97	75-128	
Naphthalene	ug/L	40	40.0	100	69-128	
o-Xylene	ug/L	40	37.2	93	75-125	
p-Isopropyltoluene	ug/L	40	37.2	93	75-130	
sec-Butylbenzene	ug/L	40	37.7	94	75-125	
Styrene	ug/L	40	38.7	97	75-125	
tert-Amylmethyl ether	ug/L	40	41.3	103	75-125	
tert-Butyl Alcohol	ug/L	400	414	103	75-125	
tert-Butylbenzene	ug/L	40	37.5	94	75-129	
Tetrachloroethene	ug/L	40	36.5	91	75-130	
Tetrahydrofuran	ug/L	400	445	111	70-130	
Toluene	ug/L	40	41.4	104	75-125	
trans-1,2-Dichloroethene	ug/L	40	40.7	102	75-125	
trans-1,3-Dichloropropene	ug/L	40	45.5	114	69-137	
trans-1,4-Dichloro-2-butene	ug/L	100	109	109	70-130	
Trichloroethene	ug/L	40	38.1	95	75-125	
Trichlorofluoromethane	ug/L	40	40.5	101	59-140	
Vinyl acetate	ug/L	40	44.7	112	75-125	
Vinyl chloride	ug/L	40	39.4	99	68-132	
Xylene (Total)	ug/L	120	110	92	75-125	
1,2-Dichloroethane-d4 (S)	%			113	70-130	
4-Bromofluorobenzene (S)	%			86	70-130	
Toluene-d8 (S)	%			102	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 361592 361593

Parameter	Units	MS 1273217002		MSD		MS 361592		MSD 361593		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
1,1,1,2-Tetrachloroethane	ug/L	<0.16	80	80	77.2	76.3	96	95	66-141	1	30		
1,1,1-Trichloroethane	ug/L	<0.28	80	80	85.5	84.5	107	106	63-142	1	30		
1,1,1,2-Tetrachloroethane	ug/L	<0.25	80	80	79.9	82.9	100	104	75-125	4	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 1273217

Parameter	Units	1273217002		361593		361593		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec							
1,1,2-Trichloroethane	ug/L	<0.31	80	80	86.5	85.1	108	106	75-132	2	30			
1,1,2-Trichlorotrifluoroethane	ug/L	<0.39	80	80	80.0	77.5	100	97	67-134	3	30			
1,1-Dichloroethane	ug/L	<0.25	80	80	90.4	89.4	113	112	75-126	1	30			
1,1-Dichloroethene	ug/L	<0.37	80	80	78.5	77.8	98	97	75-125	1	30			
1,1-Dichloropropene	ug/L	<0.38	80	80	87.5	85.0	109	106	69-129	3	30			
1,2,3-Trichlorobenzene	ug/L	<0.21	80	80	74.3	74.5	93	93	74-125	0	30			
1,2,3-Trichloropropane	ug/L	<0.40	80	80	76.6	78.8	96	99	74-126	3	30			
1,2,4-Trichlorobenzene	ug/L	<0.19	80	80	73.8	72.6	92	91	66-131	2	30			
1,2,4-Trimethylbenzene	ug/L	<0.16	80	80	76.5	75.7	96	95	75-128	1	30			
1,2-Dibromo-3-chloropropane	ug/L	<0.50	200	200	202	207	101	104	41-150	2	30			
1,2-Dibromoethane (EDB)	ug/L	<0.20	80	80	82.5	81.5	103	102	75-126	1	30			
1,2-Dichlorobenzene	ug/L	<0.23	80	80	81.8	78.3	102	98	75-125	4	30			
1,2-Dichloroethane	ug/L	<0.21	80	80	89.5	88.6	112	111	75-137	1	30			
1,2-Dichloroethene (Total)	ug/L	<0.38	160	160	173	171	108	107	70-130	1	30			
1,2-Dichloropropane	ug/L	<0.27	80	80	92.1	88.8	115	111	74-131	4	30			
1,3,5-Trimethylbenzene	ug/L	<0.39	80	80	78.3	75.8	98	95	75-129	3	30			
1,3-Dichlorobenzene	ug/L	<0.40	80	80	70.2	70.4	88	88	75-126	0	30			
1,3-Dichloropropane	ug/L	<0.17	80	80	87.7	87.9	110	110	71-130	0	30			
1,4-Dichlorobenzene	ug/L	<0.24	80	80	79.1	77.4	99	97	73-125	2	30			
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	1600	1600	1640	1500	103	94	61-133	9	30			
2,2,4-Trimethylpentane	ug/L	<0.32	80	80	90.7	88.7	113	111	70-130	2	30			
2,2-Dichloropropane	ug/L	<0.26	80	80	88.3	86.0	110	108	45-151	3	30			
2-Butanone (MEK)	ug/L	<0.91	400	400	491	531	123	133	57-143	8	30			
2-Chlorotoluene	ug/L	<0.40	80	80	72.1	70.2	90	88	75-126	3	30			
2-Hexanone	ug/L	<0.70	400	400	508	543	127	136	70-147	7	30			
4-Chlorotoluene	ug/L	<0.18	80	80	74.5	72.6	93	91	75-126	3	30			
4-Methyl-2-pentanone (MIBK)	ug/L	<0.64	400	400	514	540	128	135	70-145	5	30			
Acetone	ug/L	<3.3	400	400	459	491	115	123	60-141	7	30			
Acrolein	ug/L	<1.9	800	800	741	789	93	99	70-130	6	30			
Acrylonitrile	ug/L	<3.9	800	800	913	979	114	122	70-130	7	30			
Benzene	ug/L	<0.24	80	80	82.2	80.9	103	101	75-125	2	30			
Bromobenzene	ug/L	<0.24	80	80	69.8	69.0	87	86	75-125	1	30			
Bromochloromethane	ug/L	<0.33	80	80	77.2	76.3	97	95	75-126	1	30			
Bromodichloromethane	ug/L	<0.20	80	80	89.2	88.7	111	111	65-137	1	30			
Bromoform	ug/L	<0.36	80	80	71.4	73.7	89	92	60-147	3	30			
Bromomethane	ug/L	<0.50	80	80	78.5	76.5	98	96	30-150	3	30			
Carbon disulfide	ug/L	<0.39	80	80	77.4	75.0	97	94	62-130	3	30			
Carbon tetrachloride	ug/L	287	80	80	365	356	98	86	45-150	3	30			
Chlorobenzene	ug/L	<0.27	80	80	75.2	74.2	94	93	75-125	1	30			
Chlorodifluoromethane	ug/L	<0.35	80	80	86.9	84.9	109	106	70-130	2	30			
Chloroethane	ug/L	<0.53	80	80	87.6	91.3	110	114	66-145	4	30			
Chloroform	ug/L	15.2	80	80	105	102	112	108	74-128	3	30			
Chloromethane	ug/L	<0.29	80	80	86.8	83.8	109	105	51-150	4	30			
cis-1,2-Dichloroethene	ug/L	<0.38	80	80	81.2	80.2	101	100	75-125	1	30			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 1273217

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 361592		361593		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		1273217002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
cis-1,3-Dichloropropene	ug/L	<0.16	80	80	91.1	90.6	114	113	75-129	1	30	
Dibromochloromethane	ug/L	<0.26	80	80	83.9	82.6	105	103	66-141	2	30	
Dibromomethane	ug/L	<0.25	80	80	71.7	71.7	90	90	73-139	0	30	
Dichlorodifluoromethane	ug/L	<0.32	80	80	67.0	65.2	84	82	36-149	3	30	
Dichlorofluoromethane	ug/L	<0.28	80	80	86.8	85.3	108	107	70-130	2	30	
Diisopropyl ether	ug/L	<0.16	80	80	101	98.4	127	123	75-130	3	30	
Ethyl-tert-butyl ether	ug/L	<0.37	80	80	94.0	92.8	118	116	73-128	1	30	
Ethylbenzene	ug/L	<0.20	80	80	78.7	77.1	98	96	74-125	2	30	
Hexachloro-1,3-butadiene	ug/L	<0.26	80	80	73.3	71.0	92	89	64-134	3	30	
Isopropylbenzene (Cumene)	ug/L	<0.19	80	80	78.4	76.8	98	96	75-127	2	30	
m&p-Xylene	ug/L	<1.0	160	160	146	145	91	91	63-130	0	30	
Methyl-tert-butyl ether	ug/L	<0.17	80	80	88.6	88.6	111	111	73-129	0	30	
Methylene Chloride	ug/L	<0.22	80	80	82.7	79.0	103	99	74-125	5	30	
n-Butylbenzene	ug/L	<0.38	80	80	89.9	85.0	112	106	58-132	6	30	
n-Propylbenzene	ug/L	<0.39	80	80	79.2	78.5	99	98	75-128	1	30	
Naphthalene	ug/L	<0.14	80	80	79.2	81.3	99	102	60-133	3	30	
o-Xylene	ug/L	<0.22	80	80	75.9	73.8	95	92	66-129	3	30	
p-Isopropyltoluene	ug/L	<0.13	80	80	76.0	73.4	95	92	70-132	3	30	
sec-Butylbenzene	ug/L	<0.13	80	80	76.5	75.9	96	95	70-130	1	30	
Styrene	ug/L	<0.40	80	80	77.5	77.0	97	96	71-127	1	30	
tert-Amylmethyl ether	ug/L	<0.12	80	80	84.2	82.4	105	103	75-126	2	30	
tert-Butyl Alcohol	ug/L	<4.1	800	800	826	780	103	98	65-128	6	30	
tert-Butylbenzene	ug/L	<0.37	80	80	76.4	75.1	95	94	75-128	2	30	
Tetrachloroethene	ug/L	<0.24	80	80	74.6	73.3	93	92	75-135	2	30	
Tetrahydrofuran	ug/L	<3.4	800	800	829	900	104	112	68-147	8	30	
Toluene	ug/L	<0.21	80	80	83.9	82.2	105	103	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	<0.21	80	80	81.6	80.4	102	100	75-125	1	30	
trans-1,3-Dichloropropene	ug/L	<0.18	80	80	92.1	91.0	115	114	67-139	1	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.59	200	200	208	218	104	109	70-130	4	30	
Trichloroethene	ug/L	<0.22	80	80	76.8	74.2	96	93	75-130	3	30	
Trichlorofluoromethane	ug/L	<0.24	80	80	79.4	75.9	99	95	57-144	5	30	
Vinyl acetate	ug/L	<0.56	80	80	89.0	89.5	111	112	73-130	1	30	
Vinyl chloride	ug/L	<0.40	80	80	81.5	78.5	102	98	70-136	4	30	
Xylene (Total)	ug/L	<1.0	240	240	222	219	92	91	61-129	1	30	
1,2-Dichloroethane-d4 (S)	%						111	112	70-130			
4-Bromofluorobenzene (S)	%						86	87	70-130			
Toluene-d8 (S)	%						103	101	70-130			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR Freeman

Pace Project No.: 1273217

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR Freeman

Pace Project No.: 1273217

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1273217001	MW6D-0816	EPA 8260B	91967		
1273217002	Randall-0816	EPA 8260B	91967		
1273217003	Marlow-0816	EPA 8260B	91967		
1273217004	Freeman Store-0816	EPA 8260B	91967		
1273217005	Trip Blank	EPA 8260B	91967		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company: CH2M Hill
 Address: 999 W. Riverside Ave, Suite 500
 Spokane, WA 99201
 Email:
 Phone: Fax
 Requested Due Date/Circle: 5 Day / 10 Day **14hr**

Section B

Required Project Information:

Report To: *Mark Pichner*
 Copy To: *Steve Demus*
 Purchase Order #:
 Project Name: UPRR_Freeman
 Project #:

Section C

Invoice Information:

Attention:
 Company Name: *UPRR*
 Address:
 Pace Quote:
 Pace Project Manager: *jennifer.gross@pacelabs.com*
 Pace Profile #: 3891

Regulatory Agency
 State / Location
 WA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample Ids must be unique	MATRIX Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Y/N	Requested Analysis Filtered (Y/N)							Residual Chlorine (Y/N)							
						START DATE	START TIME	END DATE	END TIME			Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol		Other	Analyses Test	VOC by 8260	Dry Weight											
1	MW6D-0816				WTG			8-19-16	9:25		3																							
2	Randall-0816								10:15		9																							
3	Marlow-0816								10:25		3																							
4	Freeman Store-0816								10:45		3																							
5	Trip Blank										4																							
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		

1273217

Lab QC

001
002
003
004
005

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<i>JAN ICHIM</i>	8-22-16	15:00	<i>CHE Pace Analytical</i>	082316	0945	3.9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: _____ DATE Signed: _____

TEMP in C

Received on Ice (Y/N)

Custody Sealed (Y/N)

Cooler (Y/N)

Samples Intact (Y/N)

Sample Condition Upon Receipt

Client Name: CH2m Hill Project #: _____

WO#: 1273217



1273217

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other: _____
 Tracking Number: 7021 4575 0140

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermom. Used: DA1434 DA2285 Type of Ice: Wet Blue Dry Ice None Samples on ice, cooling process has begun

Cooler Temp Read(°C): 3.4 Cooler Temp Corrected(°C): 3.9 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: +0.5 Date and Initials of Person Examining Contents: cyg 0823/16

			Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12.	Sample - 005 has no info. on labels. SR will log in the date as
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample # <u>08/19/16</u> until further clarification.
Initial when completed: _____	Lot # of added preservative: _____		
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): _____			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS

Date: 08/23/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 08, 2016

Brad Ostapkowicz
CH2M Hill
2020 SW Fourth Ave
Suite 300
Portland, OR 97201

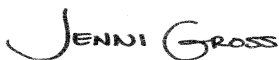
RE: Project: UPRR_Freeman
Pace Project No.: 1279470

Dear Brad Ostapkowicz:

Enclosed are the analytical results for sample(s) received by the laboratory on November 22, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Steve Demus, CH2M Hill
Mark Ochsner, CH2M Hill
uprr-sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR_Freeman
Pace Project No.: 1279470

Davis Certification IDs

2795 Second Street Suite 300 Davis, CA 95618
North Dakota Certification #: R-214
Oregon Certification #: CA300002
Washington Certification #: C926-15a

California Certification #: 08263CA
Minnesota Department of Health Certification #: 006-999-465

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR_Freeman

Pace Project No.: 1279470

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1279470001	SB25-SS-4	Solid	11/19/16 10:50	11/22/16 10:00
1279470002	SB25-SS-8	Solid	11/19/16 11:05	11/22/16 10:00
1279470003	SB25-SS-12	Solid	11/19/16 11:33	11/22/16 10:00
1279470004	SB25-SS-16	Solid	11/19/16 11:43	11/22/16 10:00
1279470005	SB25-SS-20	Solid	11/19/16 12:36	11/22/16 10:00
1279470006	SB25-SS-22	Solid	11/19/16 12:50	11/22/16 10:00
1279470007	SB26-SS-5	Solid	11/19/16 14:45	11/22/16 10:00
1279470008	SB26-SS-10	Solid	11/19/16 15:00	11/22/16 10:00
1279470009	SB26-SS-15	Solid	11/19/16 15:15	11/22/16 10:00
1279470010	SB26-SS-20	Solid	11/19/16 15:30	11/22/16 10:00
1279470011	SB26-SS-25	Solid	11/19/16 15:50	11/22/16 10:00
1279470012	SB26-SS-30	Solid	11/19/16 16:10	11/22/16 10:00
1279470013	SB26-SS-31	Solid	11/19/16 16:24	11/22/16 10:00
1279470014	SB27-SS-5	Solid	11/20/16 08:15	11/22/16 10:00
1279470015	SB27-SS-10	Solid	11/20/16 08:27	11/22/16 10:00
1279470016	SB27-SS-15	Solid	11/20/16 08:40	11/22/16 10:00
1279470017	SB27-SS-19	Solid	11/20/16 08:48	11/22/16 10:00
1279470018	SB28-SS-5	Solid	11/20/16 09:54	11/22/16 10:00
1279470019	SB28-SS-10	Solid	11/20/16 10:08	11/22/16 10:00
1279470020	SB28-SS-15	Solid	11/20/16 10:34	11/22/16 10:00
1279470021	SB28-SS-19	Solid	11/20/16 11:13	11/22/16 10:00
1279470022	SB29-SS-5	Solid	11/20/16 13:10	11/22/16 10:00
1279470023	SB29-SS-10	Solid	11/20/16 13:20	11/22/16 10:00
1279470024	SB29-SS-13	Solid	11/20/16 13:30	11/22/16 10:00
1279470025	SB30-SS-5	Solid	11/20/16 14:12	11/22/16 10:00
1279470026	SB30-SS-10	Solid	11/20/16 14:20	11/22/16 10:00
1279470027	SB30-SS-15	Solid	11/20/16 14:34	11/22/16 10:00
1279470028	SB31-SS-5	Solid	11/20/16 15:10	11/22/16 10:00
1279470029	SB31-SS-10	Solid	11/20/16 15:20	11/22/16 10:00
1279470030	SB31-SS-15	Solid	11/20/16 15:33	11/22/16 10:00
1279470031	SB32-SS-5	Solid	11/21/16 10:00	11/22/16 10:00
1279470032	SB32-SS-10	Solid	11/21/16 10:08	11/22/16 10:00
1279470033	SB32-SS-15	Solid	11/21/16 10:15	11/22/16 10:00
1279470034	SB32-SS-20	Solid	11/21/16 10:22	11/22/16 10:00
1279470035	SB32-SS-23	Solid	11/21/16 10:40	11/22/16 10:00
1279470036	SB33-SS-5	Solid	11/21/16 11:21	11/22/16 10:00
1279470037	SB33-SS-10	Solid	11/21/16 11:34	11/22/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR_Freeman

Pace Project No.: 1279470

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1279470038	SB33-SS-15	Solid	11/21/16 11:50	11/22/16 10:00
1279470039	TRIP BLANK 1-112116	Solid	11/21/16 08:00	11/22/16 10:00
1279470040	TRIP BLANK 2-112116	Solid	11/21/16 08:00	11/22/16 10:00
1279470041	TRIP BLANK 3-112116	Solid	11/21/16 08:00	11/22/16 10:00
1279470042	SB33-SS-17	Solid	11/21/16 12:05	11/22/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman
Pace Project No.: 1279470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1279470001	SB25-SS-4	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470002	SB25-SS-8	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470003	SB25-SS-12	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470004	SB25-SS-16	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470005	SB25-SS-20	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470006	SB25-SS-22	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470007	SB26-SS-5	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470008	SB26-SS-10	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470009	SB26-SS-15	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470010	SB26-SS-20	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470011	SB26-SS-25	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470012	SB26-SS-30	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470013	SB26-SS-31	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470014	SB27-SS-5	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470015	SB27-SS-10	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470016	SB27-SS-15	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470017	SB27-SS-19	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470018	SB28-SS-5	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
1279470019	SB28-SS-10	EPA 8260B	JCP	50	PASI-DAV

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman

Pace Project No.: 1279470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1279470020	SB28-SS-15	ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470021	SB28-SS-19	ASTM D 2974-13 (2013)	SJ1	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470022	SB29-SS-5	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470023	SB29-SS-10	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470024	SB29-SS-13	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470025	SB30-SS-5	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470026	SB30-SS-10	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470027	SB30-SS-15	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470028	SB31-SS-5	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470029	SB31-SS-10	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470030	SB31-SS-15	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470031	SB32-SS-5	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470032	SB32-SS-10	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470033	SB32-SS-15	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470034	SB32-SS-20	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470035	SB32-SS-23	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470036	SB33-SS-5	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
1279470037	SB33-SS-10	ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
		EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	LNE	1	PASI-DAV

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman

Pace Project No.: 1279470

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1279470038	SB33-SS-15	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	LNE	1	PASI-DAV
1279470039	TRIP BLANK 1-112116	EPA 8260B	JCP	50	PASI-DAV
1279470040	TRIP BLANK 2-112116	EPA 8260B	JCP	50	PASI-DAV
1279470041	TRIP BLANK 3-112116	EPA 8260B	JCP	50	PASI-DAV
1279470042	SB33-SS-17	EPA 8260B	JCP	50	PASI-DAV
		ASTM D 2974-13 (2013)	LNE	1	PASI-DAV

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman
Pace Project No.: 1279470

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1279470001	SB25-SS-4					
EPA 8260B	2-Butanone (MEK)	0.0072J	mg/kg	0.051	11/30/16 18:05	
EPA 8260B	Acetone	0.077	mg/kg	0.051	11/30/16 18:05	
EPA 8260B	Benzene	0.00049J	mg/kg	0.0051	11/30/16 18:05	
EPA 8260B	Toluene	0.00032J	mg/kg	0.0051	11/30/16 18:05	
EPA 8260B	Trichlorofluoromethane	0.0063	mg/kg	0.0051	11/30/16 18:05	
ASTM D 2974-13 (2013)	Percent Moisture	21.1	%	0.10	11/28/16 18:37	
1279470002	SB25-SS-8					
EPA 8260B	2-Butanone (MEK)	0.0022J	mg/kg	0.043	11/30/16 18:24	
EPA 8260B	Acetone	0.017J	mg/kg	0.043	11/30/16 18:24	
EPA 8260B	Benzene	0.00059J	mg/kg	0.0043	11/30/16 18:24	
EPA 8260B	Toluene	0.00021J	mg/kg	0.0043	11/30/16 18:24	
EPA 8260B	Trichlorofluoromethane	0.011	mg/kg	0.0043	11/30/16 18:24	
ASTM D 2974-13 (2013)	Percent Moisture	16.2	%	0.10	11/28/16 18:37	
1279470003	SB25-SS-12					
EPA 8260B	Acetone	0.0067J	mg/kg	0.042	11/30/16 18:44	
EPA 8260B	Benzene	0.00030J	mg/kg	0.0042	11/30/16 18:44	
EPA 8260B	Toluene	0.00012J	mg/kg	0.0042	11/30/16 18:44	
EPA 8260B	Trichlorofluoromethane	0.0077	mg/kg	0.0042	11/30/16 18:44	
ASTM D 2974-13 (2013)	Percent Moisture	16.8	%	0.10	11/28/16 18:37	
1279470004	SB25-SS-16					
EPA 8260B	Acetone	0.0049J	mg/kg	0.069	11/30/16 19:26	
ASTM D 2974-13 (2013)	Percent Moisture	29.9	%	0.10	11/28/16 18:37	
1279470005	SB25-SS-20					
ASTM D 2974-13 (2013)	Percent Moisture	34.1	%	0.10	11/28/16 18:37	
1279470006	SB25-SS-22					
EPA 8260B	Acetone	0.0074J	mg/kg	0.069	11/30/16 20:06	
EPA 8260B	Naphthalene	0.00012J	mg/kg	0.0069	11/30/16 20:06	
ASTM D 2974-13 (2013)	Percent Moisture	31.7	%	0.10	11/28/16 18:38	
1279470007	SB26-SS-5					
EPA 8260B	Acetone	0.0065J	mg/kg	0.059	11/30/16 20:25	
EPA 8260B	Naphthalene	0.00013J	mg/kg	0.0059	11/30/16 20:25	
ASTM D 2974-13 (2013)	Percent Moisture	16.7	%	0.10	11/28/16 18:38	
1279470008	SB26-SS-10					
EPA 8260B	Acetone	0.0078J	mg/kg	0.070	11/30/16 20:45	
EPA 8260B	Naphthalene	0.00014J	mg/kg	0.0070	11/30/16 20:45	
ASTM D 2974-13 (2013)	Percent Moisture	29.3	%	0.10	11/28/16 18:38	
1279470009	SB26-SS-15					
EPA 8260B	Acetone	0.0036J	mg/kg	0.074	12/01/16 12:49	
ASTM D 2974-13 (2013)	Percent Moisture	34.9	%	0.10	11/28/16 18:38	
1279470010	SB26-SS-20					
EPA 8260B	Acetone	0.0096J	mg/kg	0.075	12/01/16 14:49	
EPA 8260B	Naphthalene	0.00032J	mg/kg	0.0075	12/01/16 14:49	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman

Pace Project No.: 1279470

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1279470010	SB26-SS-20					
ASTM D 2974-13 (2013)	Percent Moisture	33.3	%	0.10	11/28/16 18:38	
1279470011	SB26-SS-25					
EPA 8260B	Acetone	0.0062J	mg/kg	0.075	12/01/16 15:09	
EPA 8260B	Naphthalene	0.00015J	mg/kg	0.0075	12/01/16 15:09	
ASTM D 2974-13 (2013)	Percent Moisture	35.7	%	0.10	11/28/16 18:38	
1279470012	SB26-SS-30					
EPA 8260B	Acetone	0.0073J	mg/kg	0.074	12/01/16 15:29	
EPA 8260B	Naphthalene	0.00018J	mg/kg	0.0074	12/01/16 15:29	
ASTM D 2974-13 (2013)	Percent Moisture	33.5	%	0.10	11/28/16 18:38	
1279470013	SB26-SS-31					
EPA 8260B	Acetone	0.0059J	mg/kg	0.075	12/01/16 15:49	
EPA 8260B	Naphthalene	0.00014J	mg/kg	0.0075	12/01/16 15:49	
ASTM D 2974-13 (2013)	Percent Moisture	36.0	%	0.10	11/28/16 18:38	
1279470014	SB27-SS-5					
EPA 8260B	2-Butanone (MEK)	0.0063J	mg/kg	0.064	12/01/16 16:09	
EPA 8260B	Acetone	0.035J	mg/kg	0.064	12/01/16 16:09	
EPA 8260B	Naphthalene	0.00013J	mg/kg	0.0064	12/01/16 16:09	
ASTM D 2974-13 (2013)	Percent Moisture	25.2	%	0.10	11/28/16 18:38	
1279470015	SB27-SS-10					
ASTM D 2974-13 (2013)	Percent Moisture	17.1	%	0.10	11/28/16 18:38	
1279470016	SB27-SS-15					
ASTM D 2974-13 (2013)	Percent Moisture	23.5	%	0.10	11/28/16 18:46	
1279470017	SB27-SS-19					
EPA 8260B	Acetone	0.0049J	mg/kg	0.073	12/01/16 17:08	
ASTM D 2974-13 (2013)	Percent Moisture	32.3	%	0.10	11/28/16 18:46	
1279470018	SB28-SS-5					
EPA 8260B	Acetone	0.0042J	mg/kg	0.058	12/01/16 17:28	
ASTM D 2974-13 (2013)	Percent Moisture	13.3	%	0.10	11/28/16 18:46	
1279470019	SB28-SS-10					
EPA 8260B	Acetone	0.0028J	mg/kg	0.059	12/01/16 17:48	
ASTM D 2974-13 (2013)	Percent Moisture	16.4	%	0.10	11/28/16 18:46	
1279470020	SB28-SS-15					
EPA 8260B	Acetone	0.0056J	mg/kg	0.072	12/01/16 18:08	
ASTM D 2974-13 (2013)	Percent Moisture	32.0	%	0.10	11/28/16 18:46	
1279470021	SB28-SS-19					
EPA 8260B	Acetone	0.0080J	mg/kg	0.075	12/01/16 18:28	
ASTM D 2974-13 (2013)	Percent Moisture	34.1	%	0.10	11/30/16 08:32	
1279470022	SB29-SS-5					
EPA 8260B	Acetone	0.0060J	mg/kg	0.059	12/01/16 18:48	
ASTM D 2974-13 (2013)	Percent Moisture	17.8	%	0.10	11/30/16 08:32	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman
Pace Project No.: 1279470

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1279470023	SB29-SS-10					
EPA 8260B	Acetone	0.0034J	mg/kg	0.057	12/01/16 19:08	
ASTM D 2974-13 (2013)	Percent Moisture	16.8	%	0.10	11/30/16 08:32	
1279470024	SB29-SS-13					
EPA 8260B	Acetone	0.0054J	mg/kg	0.075	12/01/16 19:28	
ASTM D 2974-13 (2013)	Percent Moisture	33.2	%	0.10	11/30/16 08:32	
1279470025	SB30-SS-5					
EPA 8260B	2-Butanone (MEK)	0.0088J	mg/kg	0.062	12/01/16 19:48	
EPA 8260B	Acetone	0.077	mg/kg	0.062	12/01/16 19:48	
ASTM D 2974-13 (2013)	Percent Moisture	20.0	%	0.10	11/30/16 08:31	
1279470026	SB30-SS-10					
EPA 8260B	Acetone	0.0045J	mg/kg	0.061	12/01/16 20:08	
ASTM D 2974-13 (2013)	Percent Moisture	18.2	%	0.10	11/30/16 08:31	
1279470027	SB30-SS-15					
EPA 8260B	Acetone	0.0040J	mg/kg	0.058	12/01/16 20:28	
ASTM D 2974-13 (2013)	Percent Moisture	15.3	%	0.10	11/30/16 08:31	
1279470028	SB31-SS-5					
EPA 8260B	Acetone	0.0052J	mg/kg	0.060	12/02/16 11:49	
EPA 8260B	Naphthalene	0.00011J	mg/kg	0.0060	12/02/16 11:49	
ASTM D 2974-13 (2013)	Percent Moisture	16.9	%	0.10	11/30/16 08:31	
1279470029	SB31-SS-10					
EPA 8260B	Acetone	0.0060J	mg/kg	0.061	12/02/16 13:28	
EPA 8260B	Naphthalene	0.00019J	mg/kg	0.0061	12/02/16 13:28	
ASTM D 2974-13 (2013)	Percent Moisture	20.5	%	0.10	11/30/16 08:31	
1279470030	SB31-SS-15					
EPA 8260B	Acetone	0.0063J	mg/kg	0.059	12/02/16 13:48	
EPA 8260B	Naphthalene	0.00012J	mg/kg	0.0059	12/02/16 13:48	
ASTM D 2974-13 (2013)	Percent Moisture	15.0	%	0.10	11/30/16 08:31	
1279470031	SB32-SS-5					
EPA 8260B	Naphthalene	0.00011J	mg/kg	0.0059	12/02/16 14:08	
ASTM D 2974-13 (2013)	Percent Moisture	15.4	%	0.10	11/30/16 08:31	
1279470032	SB32-SS-10					
EPA 8260B	Naphthalene	0.00023J	mg/kg	0.0076	12/06/16 21:48	
ASTM D 2974-13 (2013)	Percent Moisture	34.5	%	0.10	11/30/16 08:31	
1279470033	SB32-SS-15					
EPA 8260B	Acetone	0.0018J	mg/kg	0.080	12/06/16 23:28	
EPA 8260B	Naphthalene	0.00042J	mg/kg	0.0080	12/06/16 23:28	
ASTM D 2974-13 (2013)	Percent Moisture	37.6	%	0.10	11/30/16 08:31	
1279470034	SB32-SS-20					
EPA 8260B	Naphthalene	0.00032J	mg/kg	0.0070	12/06/16 23:48	
ASTM D 2974-13 (2013)	Percent Moisture	30.9	%	0.10	11/30/16 08:31	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR_Freeman
Pace Project No.: 1279470

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
1279470035	SB32-SS-23					
EPA 8260B	Naphthalene	0.00028J	mg/kg	0.0071	12/07/16 00:07	
ASTM D 2974-13 (2013)	Percent Moisture	30.3	%	0.10	11/30/16 08:31	
1279470036	SB33-SS-5					
ASTM D 2974-13 (2013)	Percent Moisture	20.4	%	0.10	11/30/16 08:28	
1279470037	SB33-SS-10					
EPA 8260B	Naphthalene	0.00016J	mg/kg	0.0057	12/07/16 00:47	
ASTM D 2974-13 (2013)	Percent Moisture	14.1	%	0.10	11/30/16 08:30	
1279470038	SB33-SS-15					
EPA 8260B	Naphthalene	0.00021J	mg/kg	0.0072	12/07/16 01:07	
ASTM D 2974-13 (2013)	Percent Moisture	31.2	%	0.10	11/30/16 08:30	
1279470039	TRIP BLANK 1-112116					
EPA 8260B	Trichlorofluoromethane	0.031J	mg/kg	0.25	12/02/16 20:06	
1279470040	TRIP BLANK 2-112116					
EPA 8260B	Trichlorofluoromethane	0.021J	mg/kg	0.25	12/02/16 20:26	
1279470042	SB33-SS-17					
ASTM D 2974-13 (2013)	Percent Moisture	36.5	%	0.10	11/30/16 08:30	

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1279470

Method: EPA 8260B
Description: 8260 MSV Low Soil
Client: UPRR_CH2M Hill
Date: December 08, 2016

General Information:

39 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5030 Low with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 101163

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1279470009

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 402167)
 - Tetrahydrofuran
- MSD (Lab ID: 402168)
 - Tetrahydrofuran

Additional Comments:

Batch Comments:

Analysis for all samples conducted outside the recognized method holding time.

- QC Batch: 101526

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 1279470

Method: EPA 8260B

Description: 8260 MSV Low Soil

Client: UPRR_CH2M Hill

Date: December 08, 2016

Batch Comments:

The initial calibration verification standard and the continuing calibration for Chloroethane are outside of Pace Analytical acceptance limits. The result is estimated.

- QC Batch: 101526

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1279470

Method: EPA 8260B
Description: 8260 MSV Med Soil
Client: UPRR_CH2M Hill
Date: December 08, 2016

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 1279470

Method: ASTM D 2974-13 (2013)
Description: Dry Weight, Davis
Client: UPRR_CH2M Hill
Date: December 08, 2016

General Information:

39 samples were analyzed for ASTM D 2974-13 (2013). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB25-SS-4** Lab ID: **1279470001** Collected: 11/19/16 10:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0026	mg/kg	0.0051	0.0026	1	11/29/16 13:49	11/30/16 18:05	79-34-5	
1,1,2-Trichloroethane	<0.00015	mg/kg	0.0051	0.00015	1	11/29/16 13:49	11/30/16 18:05	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00014	mg/kg	0.0051	0.00014	1	11/29/16 13:49	11/30/16 18:05	76-13-1	
1,1-Dichloroethane	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	75-34-3	
1,1-Dichloroethene	<0.00014	mg/kg	0.0051	0.00014	1	11/29/16 13:49	11/30/16 18:05	75-35-4	
1,2,4-Trichlorobenzene	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	120-82-1	
1,2,4-Trimethylbenzene	<0.00011	mg/kg	0.0051	0.00011	1	11/29/16 13:49	11/30/16 18:05	95-63-6	
1,2-Dibromoethane (EDB)	<0.000075	mg/kg	0.0051	0.000075	1	11/29/16 13:49	11/30/16 18:05	106-93-4	
1,2-Dichlorobenzene	<0.000073	mg/kg	0.0051	0.000073	1	11/29/16 13:49	11/30/16 18:05	95-50-1	
1,2-Dichloroethane	<0.0026	mg/kg	0.0051	0.0026	1	11/29/16 13:49	11/30/16 18:05	107-06-2	
1,3,5-Trimethylbenzene	<0.000087	mg/kg	0.0051	0.000087	1	11/29/16 13:49	11/30/16 18:05	108-67-8	
1,3-Dichlorobenzene	<0.000054	mg/kg	0.0051	0.000054	1	11/29/16 13:49	11/30/16 18:05	541-73-1	
1,4-Dichlorobenzene	<0.00015	mg/kg	0.0051	0.00015	1	11/29/16 13:49	11/30/16 18:05	106-46-7	
2-Butanone (MEK)	0.0072J	mg/kg	0.051	0.0024	1	11/29/16 13:49	11/30/16 18:05	78-93-3	
2-Hexanone	<0.00052	mg/kg	0.051	0.00052	1	11/29/16 13:49	11/30/16 18:05	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00040	mg/kg	0.051	0.00040	1	11/29/16 13:49	11/30/16 18:05	108-10-1	
Acetone	0.077	mg/kg	0.051	0.00057	1	11/29/16 13:49	11/30/16 18:05	67-64-1	
Benzene	0.00049J	mg/kg	0.0051	0.000078	1	11/29/16 13:49	11/30/16 18:05	71-43-2	
Bromodichloromethane	<0.00013	mg/kg	0.0051	0.00013	1	11/29/16 13:49	11/30/16 18:05	75-27-4	
Bromoform	<0.00022	mg/kg	0.0051	0.00022	1	11/29/16 13:49	11/30/16 18:05	75-25-2	
Bromomethane	<0.00017	mg/kg	0.021	0.00017	1	11/29/16 13:49	11/30/16 18:05	74-83-9	
Carbon tetrachloride	<0.00018	mg/kg	0.0051	0.00018	1	11/29/16 13:49	11/30/16 18:05	56-23-5	
Chlorobenzene	<0.00010	mg/kg	0.0051	0.00010	1	11/29/16 13:49	11/30/16 18:05	108-90-7	
Chloroethane	<0.00021	mg/kg	0.0051	0.00021	1	11/29/16 13:49	11/30/16 18:05	75-00-3	
Chloroform	<0.000068	mg/kg	0.0051	0.000068	1	11/29/16 13:49	11/30/16 18:05	67-66-3	
Chloromethane	<0.00013	mg/kg	0.0051	0.00013	1	11/29/16 13:49	11/30/16 18:05	74-87-3	
Dibromochloromethane	<0.000084	mg/kg	0.0051	0.000084	1	11/29/16 13:49	11/30/16 18:05	124-48-1	
Dichlorodifluoromethane	<0.00011	mg/kg	0.0051	0.00011	1	11/29/16 13:49	11/30/16 18:05	75-71-8	
Ethylbenzene	<0.000055	mg/kg	0.0051	0.000055	1	11/29/16 13:49	11/30/16 18:05	100-41-4	
Hexachloro-1,3-butadiene	<0.00015	mg/kg	0.0051	0.00015	1	11/29/16 13:49	11/30/16 18:05	87-68-3	
Methyl-tert-butyl ether	<0.000059	mg/kg	0.0051	0.000059	1	11/29/16 13:49	11/30/16 18:05	1634-04-4	
Methylene Chloride	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	75-09-2	
Naphthalene	<0.000090	mg/kg	0.0051	0.000090	1	11/29/16 13:49	11/30/16 18:05	91-20-3	
Styrene	<0.000089	mg/kg	0.0051	0.000089	1	11/29/16 13:49	11/30/16 18:05	100-42-5	
Tetrachloroethene	<0.000060	mg/kg	0.0051	0.000060	1	11/29/16 13:49	11/30/16 18:05	127-18-4	
Tetrahydrofuran	<0.0014	mg/kg	0.10	0.0014	1	11/29/16 13:49	11/30/16 18:05	109-99-9	
Toluene	0.00032J	mg/kg	0.0051	0.000094	1	11/29/16 13:49	11/30/16 18:05	108-88-3	
Trichloroethene	<0.00015	mg/kg	0.0051	0.00015	1	11/29/16 13:49	11/30/16 18:05	79-01-6	
Trichlorofluoromethane	0.0063	mg/kg	0.0051	0.00016	1	11/29/16 13:49	11/30/16 18:05	75-69-4	
Vinyl chloride	<0.00016	mg/kg	0.0051	0.00016	1	11/29/16 13:49	11/30/16 18:05	75-01-4	
cis-1,2-Dichloroethene	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	156-59-2	
cis-1,3-Dichloropropene	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	10061-01-5	
m&p-Xylene	<0.0026	mg/kg	0.0051	0.0026	1	11/29/16 13:49	11/30/16 18:05	179601-23-1	
o-Xylene	<0.000082	mg/kg	0.0051	0.000082	1	11/29/16 13:49	11/30/16 18:05	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB25-SS-4 **Lab ID: 1279470001** Collected: 11/19/16 10:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00014	mg/kg	0.0051	0.00014	1	11/29/16 13:49	11/30/16 18:05	156-60-5	
trans-1,3-Dichloropropene	<0.00012	mg/kg	0.0051	0.00012	1	11/29/16 13:49	11/30/16 18:05	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	11/29/16 13:49	11/30/16 18:05	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	11/29/16 13:49	11/30/16 18:05	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		1	11/29/16 13:49	11/30/16 18:05	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	21.1	%	0.10	0.10	1		11/28/16 18:37		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB25-SS-8** Lab ID: **1279470002** Collected: 11/19/16 11:05 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.000098	mg/kg	0.0043	0.000098	1	11/29/16 13:49	11/30/16 18:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0021	mg/kg	0.0043	0.0021	1	11/29/16 13:49	11/30/16 18:24	79-34-5	
1,1,2-Trichloroethane	<0.00012	mg/kg	0.0043	0.00012	1	11/29/16 13:49	11/30/16 18:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00012	mg/kg	0.0043	0.00012	1	11/29/16 13:49	11/30/16 18:24	76-13-1	
1,1-Dichloroethane	<0.00010	mg/kg	0.0043	0.00010	1	11/29/16 13:49	11/30/16 18:24	75-34-3	
1,1-Dichloroethene	<0.00012	mg/kg	0.0043	0.00012	1	11/29/16 13:49	11/30/16 18:24	75-35-4	
1,2,4-Trichlorobenzene	<0.00010	mg/kg	0.0043	0.00010	1	11/29/16 13:49	11/30/16 18:24	120-82-1	
1,2,4-Trimethylbenzene	<0.000089	mg/kg	0.0043	0.000089	1	11/29/16 13:49	11/30/16 18:24	95-63-6	
1,2-Dibromoethane (EDB)	<0.000063	mg/kg	0.0043	0.000063	1	11/29/16 13:49	11/30/16 18:24	106-93-4	
1,2-Dichlorobenzene	<0.000061	mg/kg	0.0043	0.000061	1	11/29/16 13:49	11/30/16 18:24	95-50-1	
1,2-Dichloroethane	<0.0021	mg/kg	0.0043	0.0021	1	11/29/16 13:49	11/30/16 18:24	107-06-2	
1,3,5-Trimethylbenzene	<0.000072	mg/kg	0.0043	0.000072	1	11/29/16 13:49	11/30/16 18:24	108-67-8	
1,3-Dichlorobenzene	<0.000045	mg/kg	0.0043	0.000045	1	11/29/16 13:49	11/30/16 18:24	541-73-1	
1,4-Dichlorobenzene	<0.00012	mg/kg	0.0043	0.00012	1	11/29/16 13:49	11/30/16 18:24	106-46-7	
2-Butanone (MEK)	0.0022J	mg/kg	0.043	0.0020	1	11/29/16 13:49	11/30/16 18:24	78-93-3	
2-Hexanone	<0.00043	mg/kg	0.043	0.00043	1	11/29/16 13:49	11/30/16 18:24	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00033	mg/kg	0.043	0.00033	1	11/29/16 13:49	11/30/16 18:24	108-10-1	
Acetone	0.017J	mg/kg	0.043	0.00048	1	11/29/16 13:49	11/30/16 18:24	67-64-1	
Benzene	0.00059J	mg/kg	0.0043	0.000065	1	11/29/16 13:49	11/30/16 18:24	71-43-2	
Bromodichloromethane	<0.00011	mg/kg	0.0043	0.00011	1	11/29/16 13:49	11/30/16 18:24	75-27-4	
Bromoform	<0.00018	mg/kg	0.0043	0.00018	1	11/29/16 13:49	11/30/16 18:24	75-25-2	
Bromomethane	<0.00014	mg/kg	0.017	0.00014	1	11/29/16 13:49	11/30/16 18:24	74-83-9	
Carbon tetrachloride	<0.00015	mg/kg	0.0043	0.00015	1	11/29/16 13:49	11/30/16 18:24	56-23-5	
Chlorobenzene	<0.000087	mg/kg	0.0043	0.000087	1	11/29/16 13:49	11/30/16 18:24	108-90-7	
Chloroethane	<0.00017	mg/kg	0.0043	0.00017	1	11/29/16 13:49	11/30/16 18:24	75-00-3	
Chloroform	<0.000057	mg/kg	0.0043	0.000057	1	11/29/16 13:49	11/30/16 18:24	67-66-3	
Chloromethane	<0.00011	mg/kg	0.0043	0.00011	1	11/29/16 13:49	11/30/16 18:24	74-87-3	
Dibromochloromethane	<0.000070	mg/kg	0.0043	0.000070	1	11/29/16 13:49	11/30/16 18:24	124-48-1	
Dichlorodifluoromethane	<0.000095	mg/kg	0.0043	0.000095	1	11/29/16 13:49	11/30/16 18:24	75-71-8	
Ethylbenzene	<0.000046	mg/kg	0.0043	0.000046	1	11/29/16 13:49	11/30/16 18:24	100-41-4	
Hexachloro-1,3-butadiene	<0.00013	mg/kg	0.0043	0.00013	1	11/29/16 13:49	11/30/16 18:24	87-68-3	
Methyl-tert-butyl ether	<0.000050	mg/kg	0.0043	0.000050	1	11/29/16 13:49	11/30/16 18:24	1634-04-4	
Methylene Chloride	<0.000097	mg/kg	0.0043	0.000097	1	11/29/16 13:49	11/30/16 18:24	75-09-2	
Naphthalene	<0.000075	mg/kg	0.0043	0.000075	1	11/29/16 13:49	11/30/16 18:24	91-20-3	
Styrene	<0.000075	mg/kg	0.0043	0.000075	1	11/29/16 13:49	11/30/16 18:24	100-42-5	
Tetrachloroethene	<0.000050	mg/kg	0.0043	0.000050	1	11/29/16 13:49	11/30/16 18:24	127-18-4	
Tetrahydrofuran	<0.0011	mg/kg	0.086	0.0011	1	11/29/16 13:49	11/30/16 18:24	109-99-9	
Toluene	0.00021J	mg/kg	0.0043	0.000078	1	11/29/16 13:49	11/30/16 18:24	108-88-3	
Trichloroethene	<0.00012	mg/kg	0.0043	0.00012	1	11/29/16 13:49	11/30/16 18:24	79-01-6	
Trichlorofluoromethane	0.011	mg/kg	0.0043	0.00014	1	11/29/16 13:49	11/30/16 18:24	75-69-4	
Vinyl chloride	<0.00013	mg/kg	0.0043	0.00013	1	11/29/16 13:49	11/30/16 18:24	75-01-4	
cis-1,2-Dichloroethene	<0.00010	mg/kg	0.0043	0.00010	1	11/29/16 13:49	11/30/16 18:24	156-59-2	
cis-1,3-Dichloropropene	<0.000098	mg/kg	0.0043	0.000098	1	11/29/16 13:49	11/30/16 18:24	10061-01-5	
m&p-Xylene	<0.0021	mg/kg	0.0043	0.0021	1	11/29/16 13:49	11/30/16 18:24	179601-23-1	
o-Xylene	<0.000069	mg/kg	0.0043	0.000069	1	11/29/16 13:49	11/30/16 18:24	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB25-SS-8 **Lab ID: 1279470002** Collected: 11/19/16 11:05 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00011	mg/kg	0.0043	0.00011	1	11/29/16 13:49	11/30/16 18:24	156-60-5	
trans-1,3-Dichloropropene	<0.00010	mg/kg	0.0043	0.00010	1	11/29/16 13:49	11/30/16 18:24	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	70-130		1	11/29/16 13:49	11/30/16 18:24	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	11/29/16 13:49	11/30/16 18:24	2037-26-5	
4-Bromofluorobenzene (S)	89	%	70-130		1	11/29/16 13:49	11/30/16 18:24	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	16.2	%	0.10	0.10	1		11/28/16 18:37		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB25-SS-12** Lab ID: **1279470003** Collected: 11/19/16 11:33 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.000095	mg/kg	0.0042	0.000095	1	11/29/16 13:49	11/30/16 18:44	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0021	mg/kg	0.0042	0.0021	1	11/29/16 13:49	11/30/16 18:44	79-34-5	
1,1,2-Trichloroethane	<0.00012	mg/kg	0.0042	0.00012	1	11/29/16 13:49	11/30/16 18:44	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00012	mg/kg	0.0042	0.00012	1	11/29/16 13:49	11/30/16 18:44	76-13-1	
1,1-Dichloroethane	<0.000097	mg/kg	0.0042	0.000097	1	11/29/16 13:49	11/30/16 18:44	75-34-3	
1,1-Dichloroethene	<0.00011	mg/kg	0.0042	0.00011	1	11/29/16 13:49	11/30/16 18:44	75-35-4	
1,2,4-Trichlorobenzene	<0.00010	mg/kg	0.0042	0.00010	1	11/29/16 13:49	11/30/16 18:44	120-82-1	
1,2,4-Trimethylbenzene	<0.000087	mg/kg	0.0042	0.000087	1	11/29/16 13:49	11/30/16 18:44	95-63-6	
1,2-Dibromoethane (EDB)	<0.000061	mg/kg	0.0042	0.000061	1	11/29/16 13:49	11/30/16 18:44	106-93-4	
1,2-Dichlorobenzene	<0.000059	mg/kg	0.0042	0.000059	1	11/29/16 13:49	11/30/16 18:44	95-50-1	
1,2-Dichloroethane	<0.0021	mg/kg	0.0042	0.0021	1	11/29/16 13:49	11/30/16 18:44	107-06-2	
1,3,5-Trimethylbenzene	<0.000070	mg/kg	0.0042	0.000070	1	11/29/16 13:49	11/30/16 18:44	108-67-8	
1,3-Dichlorobenzene	<0.000044	mg/kg	0.0042	0.000044	1	11/29/16 13:49	11/30/16 18:44	541-73-1	
1,4-Dichlorobenzene	<0.00012	mg/kg	0.0042	0.00012	1	11/29/16 13:49	11/30/16 18:44	106-46-7	
2-Butanone (MEK)	<0.0019	mg/kg	0.042	0.0019	1	11/29/16 13:49	11/30/16 18:44	78-93-3	
2-Hexanone	<0.00042	mg/kg	0.042	0.00042	1	11/29/16 13:49	11/30/16 18:44	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00032	mg/kg	0.042	0.00032	1	11/29/16 13:49	11/30/16 18:44	108-10-1	
Acetone	0.0067J	mg/kg	0.042	0.00046	1	11/29/16 13:49	11/30/16 18:44	67-64-1	
Benzene	0.00030J	mg/kg	0.0042	0.000063	1	11/29/16 13:49	11/30/16 18:44	71-43-2	
Bromodichloromethane	<0.00010	mg/kg	0.0042	0.00010	1	11/29/16 13:49	11/30/16 18:44	75-27-4	
Bromoform	<0.00018	mg/kg	0.0042	0.00018	1	11/29/16 13:49	11/30/16 18:44	75-25-2	
Bromomethane	<0.00014	mg/kg	0.017	0.00014	1	11/29/16 13:49	11/30/16 18:44	74-83-9	
Carbon tetrachloride	<0.00014	mg/kg	0.0042	0.00014	1	11/29/16 13:49	11/30/16 18:44	56-23-5	
Chlorobenzene	<0.000084	mg/kg	0.0042	0.000084	1	11/29/16 13:49	11/30/16 18:44	108-90-7	
Chloroethane	<0.00017	mg/kg	0.0042	0.00017	1	11/29/16 13:49	11/30/16 18:44	75-00-3	
Chloroform	<0.000055	mg/kg	0.0042	0.000055	1	11/29/16 13:49	11/30/16 18:44	67-66-3	
Chloromethane	<0.00011	mg/kg	0.0042	0.00011	1	11/29/16 13:49	11/30/16 18:44	74-87-3	
Dibromochloromethane	<0.000068	mg/kg	0.0042	0.000068	1	11/29/16 13:49	11/30/16 18:44	124-48-1	
Dichlorodifluoromethane	<0.000092	mg/kg	0.0042	0.000092	1	11/29/16 13:49	11/30/16 18:44	75-71-8	
Ethylbenzene	<0.000044	mg/kg	0.0042	0.000044	1	11/29/16 13:49	11/30/16 18:44	100-41-4	
Hexachloro-1,3-butadiene	<0.00012	mg/kg	0.0042	0.00012	1	11/29/16 13:49	11/30/16 18:44	87-68-3	
Methyl-tert-butyl ether	<0.000048	mg/kg	0.0042	0.000048	1	11/29/16 13:49	11/30/16 18:44	1634-04-4	
Methylene Chloride	<0.000094	mg/kg	0.0042	0.000094	1	11/29/16 13:49	11/30/16 18:44	75-09-2	
Naphthalene	<0.000073	mg/kg	0.0042	0.000073	1	11/29/16 13:49	11/30/16 18:44	91-20-3	
Styrene	<0.000072	mg/kg	0.0042	0.000072	1	11/29/16 13:49	11/30/16 18:44	100-42-5	
Tetrachloroethene	<0.000049	mg/kg	0.0042	0.000049	1	11/29/16 13:49	11/30/16 18:44	127-18-4	
Tetrahydrofuran	<0.0011	mg/kg	0.083	0.0011	1	11/29/16 13:49	11/30/16 18:44	109-99-9	
Toluene	0.00012J	mg/kg	0.0042	0.000076	1	11/29/16 13:49	11/30/16 18:44	108-88-3	
Trichloroethene	<0.00012	mg/kg	0.0042	0.00012	1	11/29/16 13:49	11/30/16 18:44	79-01-6	
Trichlorofluoromethane	0.0077	mg/kg	0.0042	0.00013	1	11/29/16 13:49	11/30/16 18:44	75-69-4	
Vinyl chloride	<0.00013	mg/kg	0.0042	0.00013	1	11/29/16 13:49	11/30/16 18:44	75-01-4	
cis-1,2-Dichloroethene	<0.00010	mg/kg	0.0042	0.00010	1	11/29/16 13:49	11/30/16 18:44	156-59-2	
cis-1,3-Dichloropropene	<0.000095	mg/kg	0.0042	0.000095	1	11/29/16 13:49	11/30/16 18:44	10061-01-5	
m&p-Xylene	<0.0021	mg/kg	0.0042	0.0021	1	11/29/16 13:49	11/30/16 18:44	179601-23-1	
o-Xylene	<0.000067	mg/kg	0.0042	0.000067	1	11/29/16 13:49	11/30/16 18:44	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB25-SS-12 **Lab ID: 1279470003** Collected: 11/19/16 11:33 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00011	mg/kg	0.0042	0.00011	1	11/29/16 13:49	11/30/16 18:44	156-60-5	
trans-1,3-Dichloropropene	<0.000097	mg/kg	0.0042	0.000097	1	11/29/16 13:49	11/30/16 18:44	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	11/29/16 13:49	11/30/16 18:44	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	11/29/16 13:49	11/30/16 18:44	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1	11/29/16 13:49	11/30/16 18:44	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	16.8	%	0.10	0.10	1		11/28/16 18:37		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB25-SS-16** Lab ID: **1279470004** Collected: 11/19/16 11:43 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 19:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0035	mg/kg	0.0069	0.0035	1	11/29/16 13:49	11/30/16 19:26	79-34-5	
1,1,2-Trichloroethane	<0.00020	mg/kg	0.0069	0.00020	1	11/29/16 13:49	11/30/16 19:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00019	mg/kg	0.0069	0.00019	1	11/29/16 13:49	11/30/16 19:26	76-13-1	
1,1-Dichloroethane	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 19:26	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0069	0.00019	1	11/29/16 13:49	11/30/16 19:26	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0069	0.00017	1	11/29/16 13:49	11/30/16 19:26	120-82-1	
1,2,4-Trimethylbenzene	<0.00014	mg/kg	0.0069	0.00014	1	11/29/16 13:49	11/30/16 19:26	95-63-6	
1,2-Dibromoethane (EDB)	<0.00010	mg/kg	0.0069	0.00010	1	11/29/16 13:49	11/30/16 19:26	106-93-4	
1,2-Dichlorobenzene	<0.000099	mg/kg	0.0069	0.000099	1	11/29/16 13:49	11/30/16 19:26	95-50-1	
1,2-Dichloroethane	<0.0035	mg/kg	0.0069	0.0035	1	11/29/16 13:49	11/30/16 19:26	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0069	0.00012	1	11/29/16 13:49	11/30/16 19:26	108-67-8	
1,3-Dichlorobenzene	<0.000073	mg/kg	0.0069	0.000073	1	11/29/16 13:49	11/30/16 19:26	541-73-1	
1,4-Dichlorobenzene	<0.00020	mg/kg	0.0069	0.00020	1	11/29/16 13:49	11/30/16 19:26	106-46-7	
2-Butanone (MEK)	<0.0032	mg/kg	0.069	0.0032	1	11/29/16 13:49	11/30/16 19:26	78-93-3	
2-Hexanone	<0.00070	mg/kg	0.069	0.00070	1	11/29/16 13:49	11/30/16 19:26	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00054	mg/kg	0.069	0.00054	1	11/29/16 13:49	11/30/16 19:26	108-10-1	
Acetone	0.0049J	mg/kg	0.069	0.00077	1	11/29/16 13:49	11/30/16 19:26	67-64-1	
Benzene	<0.00011	mg/kg	0.0069	0.00011	1	11/29/16 13:49	11/30/16 19:26	71-43-2	
Bromodichloromethane	<0.00017	mg/kg	0.0069	0.00017	1	11/29/16 13:49	11/30/16 19:26	75-27-4	
Bromoform	<0.00029	mg/kg	0.0069	0.00029	1	11/29/16 13:49	11/30/16 19:26	75-25-2	
Bromomethane	<0.00023	mg/kg	0.028	0.00023	1	11/29/16 13:49	11/30/16 19:26	74-83-9	
Carbon tetrachloride	<0.00024	mg/kg	0.0069	0.00024	1	11/29/16 13:49	11/30/16 19:26	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0069	0.00014	1	11/29/16 13:49	11/30/16 19:26	108-90-7	
Chloroethane	<0.00028	mg/kg	0.0069	0.00028	1	11/29/16 13:49	11/30/16 19:26	75-00-3	
Chloroform	<0.000092	mg/kg	0.0069	0.000092	1	11/29/16 13:49	11/30/16 19:26	67-66-3	
Chloromethane	<0.00018	mg/kg	0.0069	0.00018	1	11/29/16 13:49	11/30/16 19:26	74-87-3	
Dibromochloromethane	<0.00011	mg/kg	0.0069	0.00011	1	11/29/16 13:49	11/30/16 19:26	124-48-1	
Dichlorodifluoromethane	<0.00015	mg/kg	0.0069	0.00015	1	11/29/16 13:49	11/30/16 19:26	75-71-8	
Ethylbenzene	<0.000074	mg/kg	0.0069	0.000074	1	11/29/16 13:49	11/30/16 19:26	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0069	0.00021	1	11/29/16 13:49	11/30/16 19:26	87-68-3	
Methyl-tert-butyl ether	<0.000080	mg/kg	0.0069	0.000080	1	11/29/16 13:49	11/30/16 19:26	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 19:26	75-09-2	
Naphthalene	<0.00012	mg/kg	0.0069	0.00012	1	11/29/16 13:49	11/30/16 19:26	91-20-3	
Styrene	<0.00012	mg/kg	0.0069	0.00012	1	11/29/16 13:49	11/30/16 19:26	100-42-5	
Tetrachloroethene	<0.000081	mg/kg	0.0069	0.000081	1	11/29/16 13:49	11/30/16 19:26	127-18-4	
Tetrahydrofuran	<0.0018	mg/kg	0.14	0.0018	1	11/29/16 13:49	11/30/16 19:26	109-99-9	
Toluene	<0.00013	mg/kg	0.0069	0.00013	1	11/29/16 13:49	11/30/16 19:26	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0069	0.00020	1	11/29/16 13:49	11/30/16 19:26	79-01-6	
Trichlorofluoromethane	<0.00022	mg/kg	0.0069	0.00022	1	11/29/16 13:49	11/30/16 19:26	75-69-4	
Vinyl chloride	<0.00021	mg/kg	0.0069	0.00021	1	11/29/16 13:49	11/30/16 19:26	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0069	0.00017	1	11/29/16 13:49	11/30/16 19:26	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 19:26	10061-01-5	
m&p-Xylene	<0.0035	mg/kg	0.0069	0.0035	1	11/29/16 13:49	11/30/16 19:26	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0069	0.00011	1	11/29/16 13:49	11/30/16 19:26	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB25-SS-16 **Lab ID: 1279470004** Collected: 11/19/16 11:43 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00018	mg/kg	0.0069	0.00018	1	11/29/16 13:49	11/30/16 19:26	156-60-5	
trans-1,3-Dichloropropene	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 19:26	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	70-130		1	11/29/16 13:49	11/30/16 19:26	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1	11/29/16 13:49	11/30/16 19:26	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1	11/29/16 13:49	11/30/16 19:26	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	29.9	%	0.10	0.10	1		11/28/16 18:37		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB25-SS-20** Lab ID: **1279470005** Collected: 11/19/16 12:36 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0071	0.00016	1	11/29/16 13:49	11/30/16 19:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0035	mg/kg	0.0071	0.0035	1	11/29/16 13:49	11/30/16 19:46	79-34-5	
1,1,2-Trichloroethane	<0.00020	mg/kg	0.0071	0.00020	1	11/29/16 13:49	11/30/16 19:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0071	0.00020	1	11/29/16 13:49	11/30/16 19:46	76-13-1	
1,1-Dichloroethane	<0.00016	mg/kg	0.0071	0.00016	1	11/29/16 13:49	11/30/16 19:46	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0071	0.00019	1	11/29/16 13:49	11/30/16 19:46	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0071	0.00017	1	11/29/16 13:49	11/30/16 19:46	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0071	0.00015	1	11/29/16 13:49	11/30/16 19:46	95-63-6	
1,2-Dibromoethane (EDB)	<0.00010	mg/kg	0.0071	0.00010	1	11/29/16 13:49	11/30/16 19:46	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0071	0.00010	1	11/29/16 13:49	11/30/16 19:46	95-50-1	
1,2-Dichloroethane	<0.0035	mg/kg	0.0071	0.0035	1	11/29/16 13:49	11/30/16 19:46	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0071	0.00012	1	11/29/16 13:49	11/30/16 19:46	108-67-8	
1,3-Dichlorobenzene	<0.000074	mg/kg	0.0071	0.000074	1	11/29/16 13:49	11/30/16 19:46	541-73-1	
1,4-Dichlorobenzene	<0.00020	mg/kg	0.0071	0.00020	1	11/29/16 13:49	11/30/16 19:46	106-46-7	
2-Butanone (MEK)	<0.0033	mg/kg	0.071	0.0033	1	11/29/16 13:49	11/30/16 19:46	78-93-3	
2-Hexanone	<0.00072	mg/kg	0.071	0.00072	1	11/29/16 13:49	11/30/16 19:46	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00055	mg/kg	0.071	0.00055	1	11/29/16 13:49	11/30/16 19:46	108-10-1	
Acetone	<0.00079	mg/kg	0.071	0.00079	1	11/29/16 13:49	11/30/16 19:46	67-64-1	
Benzene	<0.00011	mg/kg	0.0071	0.00011	1	11/29/16 13:49	11/30/16 19:46	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0071	0.00018	1	11/29/16 13:49	11/30/16 19:46	75-27-4	
Bromoform	<0.00030	mg/kg	0.0071	0.00030	1	11/29/16 13:49	11/30/16 19:46	75-25-2	
Bromomethane	<0.00024	mg/kg	0.028	0.00024	1	11/29/16 13:49	11/30/16 19:46	74-83-9	
Carbon tetrachloride	<0.00024	mg/kg	0.0071	0.00024	1	11/29/16 13:49	11/30/16 19:46	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0071	0.00014	1	11/29/16 13:49	11/30/16 19:46	108-90-7	
Chloroethane	<0.00028	mg/kg	0.0071	0.00028	1	11/29/16 13:49	11/30/16 19:46	75-00-3	
Chloroform	<0.000094	mg/kg	0.0071	0.000094	1	11/29/16 13:49	11/30/16 19:46	67-66-3	
Chloromethane	<0.00018	mg/kg	0.0071	0.00018	1	11/29/16 13:49	11/30/16 19:46	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0071	0.00012	1	11/29/16 13:49	11/30/16 19:46	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0071	0.00016	1	11/29/16 13:49	11/30/16 19:46	75-71-8	
Ethylbenzene	<0.000075	mg/kg	0.0071	0.000075	1	11/29/16 13:49	11/30/16 19:46	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0071	0.00021	1	11/29/16 13:49	11/30/16 19:46	87-68-3	
Methyl-tert-butyl ether	<0.000082	mg/kg	0.0071	0.000082	1	11/29/16 13:49	11/30/16 19:46	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0071	0.00016	1	11/29/16 13:49	11/30/16 19:46	75-09-2	
Naphthalene	<0.00012	mg/kg	0.0071	0.00012	1	11/29/16 13:49	11/30/16 19:46	91-20-3	
Styrene	<0.00012	mg/kg	0.0071	0.00012	1	11/29/16 13:49	11/30/16 19:46	100-42-5	
Tetrachloroethene	<0.000083	mg/kg	0.0071	0.000083	1	11/29/16 13:49	11/30/16 19:46	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.14	0.0019	1	11/29/16 13:49	11/30/16 19:46	109-99-9	
Toluene	<0.00013	mg/kg	0.0071	0.00013	1	11/29/16 13:49	11/30/16 19:46	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0071	0.00020	1	11/29/16 13:49	11/30/16 19:46	79-01-6	
Trichlorofluoromethane	<0.00022	mg/kg	0.0071	0.00022	1	11/29/16 13:49	11/30/16 19:46	75-69-4	
Vinyl chloride	<0.00021	mg/kg	0.0071	0.00021	1	11/29/16 13:49	11/30/16 19:46	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0071	0.00017	1	11/29/16 13:49	11/30/16 19:46	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0071	0.00016	1	11/29/16 13:49	11/30/16 19:46	10061-01-5	
m&p-Xylene	<0.0035	mg/kg	0.0071	0.0035	1	11/29/16 13:49	11/30/16 19:46	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0071	0.00011	1	11/29/16 13:49	11/30/16 19:46	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB25-SS-20 **Lab ID: 1279470005** Collected: 11/19/16 12:36 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0071	0.00019	1	11/29/16 13:49	11/30/16 19:46	156-60-5	
trans-1,3-Dichloropropene	<0.00016	mg/kg	0.0071	0.00016	1	11/29/16 13:49	11/30/16 19:46	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1	11/29/16 13:49	11/30/16 19:46	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	11/29/16 13:49	11/30/16 19:46	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1	11/29/16 13:49	11/30/16 19:46	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	34.1	%	0.10	0.10	1		11/28/16 18:37		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB25-SS-22** Lab ID: **1279470006** Collected: 11/19/16 12:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 20:06	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0035	mg/kg	0.0069	0.0035	1	11/29/16 13:49	11/30/16 20:06	79-34-5	
1,1,2-Trichloroethane	<0.00020	mg/kg	0.0069	0.00020	1	11/29/16 13:49	11/30/16 20:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00019	mg/kg	0.0069	0.00019	1	11/29/16 13:49	11/30/16 20:06	76-13-1	
1,1-Dichloroethane	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 20:06	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0069	0.00019	1	11/29/16 13:49	11/30/16 20:06	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0069	0.00017	1	11/29/16 13:49	11/30/16 20:06	120-82-1	
1,2,4-Trimethylbenzene	<0.00014	mg/kg	0.0069	0.00014	1	11/29/16 13:49	11/30/16 20:06	95-63-6	
1,2-Dibromoethane (EDB)	<0.00010	mg/kg	0.0069	0.00010	1	11/29/16 13:49	11/30/16 20:06	106-93-4	
1,2-Dichlorobenzene	<0.000099	mg/kg	0.0069	0.000099	1	11/29/16 13:49	11/30/16 20:06	95-50-1	
1,2-Dichloroethane	<0.0035	mg/kg	0.0069	0.0035	1	11/29/16 13:49	11/30/16 20:06	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0069	0.00012	1	11/29/16 13:49	11/30/16 20:06	108-67-8	
1,3-Dichlorobenzene	<0.000073	mg/kg	0.0069	0.000073	1	11/29/16 13:49	11/30/16 20:06	541-73-1	
1,4-Dichlorobenzene	<0.00020	mg/kg	0.0069	0.00020	1	11/29/16 13:49	11/30/16 20:06	106-46-7	
2-Butanone (MEK)	<0.0032	mg/kg	0.069	0.0032	1	11/29/16 13:49	11/30/16 20:06	78-93-3	
2-Hexanone	<0.00070	mg/kg	0.069	0.00070	1	11/29/16 13:49	11/30/16 20:06	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00054	mg/kg	0.069	0.00054	1	11/29/16 13:49	11/30/16 20:06	108-10-1	
Acetone	0.0074J	mg/kg	0.069	0.00077	1	11/29/16 13:49	11/30/16 20:06	67-64-1	
Benzene	<0.00011	mg/kg	0.0069	0.00011	1	11/29/16 13:49	11/30/16 20:06	71-43-2	
Bromodichloromethane	<0.00017	mg/kg	0.0069	0.00017	1	11/29/16 13:49	11/30/16 20:06	75-27-4	
Bromoform	<0.00029	mg/kg	0.0069	0.00029	1	11/29/16 13:49	11/30/16 20:06	75-25-2	
Bromomethane	<0.00023	mg/kg	0.028	0.00023	1	11/29/16 13:49	11/30/16 20:06	74-83-9	
Carbon tetrachloride	<0.00024	mg/kg	0.0069	0.00024	1	11/29/16 13:49	11/30/16 20:06	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0069	0.00014	1	11/29/16 13:49	11/30/16 20:06	108-90-7	
Chloroethane	<0.00028	mg/kg	0.0069	0.00028	1	11/29/16 13:49	11/30/16 20:06	75-00-3	
Chloroform	<0.000092	mg/kg	0.0069	0.000092	1	11/29/16 13:49	11/30/16 20:06	67-66-3	
Chloromethane	<0.00018	mg/kg	0.0069	0.00018	1	11/29/16 13:49	11/30/16 20:06	74-87-3	
Dibromochloromethane	<0.00011	mg/kg	0.0069	0.00011	1	11/29/16 13:49	11/30/16 20:06	124-48-1	
Dichlorodifluoromethane	<0.00015	mg/kg	0.0069	0.00015	1	11/29/16 13:49	11/30/16 20:06	75-71-8	
Ethylbenzene	<0.000074	mg/kg	0.0069	0.000074	1	11/29/16 13:49	11/30/16 20:06	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0069	0.00021	1	11/29/16 13:49	11/30/16 20:06	87-68-3	
Methyl-tert-butyl ether	<0.000080	mg/kg	0.0069	0.000080	1	11/29/16 13:49	11/30/16 20:06	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 20:06	75-09-2	
Naphthalene	0.00012J	mg/kg	0.0069	0.00012	1	11/29/16 13:49	11/30/16 20:06	91-20-3	
Styrene	<0.00012	mg/kg	0.0069	0.00012	1	11/29/16 13:49	11/30/16 20:06	100-42-5	
Tetrachloroethene	<0.000081	mg/kg	0.0069	0.000081	1	11/29/16 13:49	11/30/16 20:06	127-18-4	
Tetrahydrofuran	<0.0018	mg/kg	0.14	0.0018	1	11/29/16 13:49	11/30/16 20:06	109-99-9	
Toluene	<0.00013	mg/kg	0.0069	0.00013	1	11/29/16 13:49	11/30/16 20:06	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0069	0.00020	1	11/29/16 13:49	11/30/16 20:06	79-01-6	
Trichlorofluoromethane	<0.00022	mg/kg	0.0069	0.00022	1	11/29/16 13:49	11/30/16 20:06	75-69-4	
Vinyl chloride	<0.00021	mg/kg	0.0069	0.00021	1	11/29/16 13:49	11/30/16 20:06	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0069	0.00017	1	11/29/16 13:49	11/30/16 20:06	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 20:06	10061-01-5	
m&p-Xylene	<0.0035	mg/kg	0.0069	0.0035	1	11/29/16 13:49	11/30/16 20:06	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0069	0.00011	1	11/29/16 13:49	11/30/16 20:06	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB25-SS-22 **Lab ID: 1279470006** Collected: 11/19/16 12:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00018	mg/kg	0.0069	0.00018	1	11/29/16 13:49	11/30/16 20:06	156-60-5	
trans-1,3-Dichloropropene	<0.00016	mg/kg	0.0069	0.00016	1	11/29/16 13:49	11/30/16 20:06	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1	11/29/16 13:49	11/30/16 20:06	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	11/29/16 13:49	11/30/16 20:06	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		1	11/29/16 13:49	11/30/16 20:06	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	31.7	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB26-SS-5** Lab ID: **1279470007** Collected: 11/19/16 14:45 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0059	0.00013	1	11/29/16 13:49	11/30/16 20:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0059	0.0029	1	11/29/16 13:49	11/30/16 20:25	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0059	0.00017	1	11/29/16 13:49	11/30/16 20:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0059	0.00016	1	11/29/16 13:49	11/30/16 20:25	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0059	0.00014	1	11/29/16 13:49	11/30/16 20:25	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	11/29/16 13:49	11/30/16 20:25	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0059	0.00014	1	11/29/16 13:49	11/30/16 20:25	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0059	0.00012	1	11/29/16 13:49	11/30/16 20:25	95-63-6	
1,2-Dibromoethane (EDB)	<0.000086	mg/kg	0.0059	0.000086	1	11/29/16 13:49	11/30/16 20:25	106-93-4	
1,2-Dichlorobenzene	<0.000084	mg/kg	0.0059	0.000084	1	11/29/16 13:49	11/30/16 20:25	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0059	0.0029	1	11/29/16 13:49	11/30/16 20:25	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0059	0.00010	1	11/29/16 13:49	11/30/16 20:25	108-67-8	
1,3-Dichlorobenzene	<0.000062	mg/kg	0.0059	0.000062	1	11/29/16 13:49	11/30/16 20:25	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0059	0.00017	1	11/29/16 13:49	11/30/16 20:25	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.059	0.0027	1	11/29/16 13:49	11/30/16 20:25	78-93-3	
2-Hexanone	<0.00060	mg/kg	0.059	0.00060	1	11/29/16 13:49	11/30/16 20:25	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00046	mg/kg	0.059	0.00046	1	11/29/16 13:49	11/30/16 20:25	108-10-1	
Acetone	0.0065J	mg/kg	0.059	0.00065	1	11/29/16 13:49	11/30/16 20:25	67-64-1	
Benzene	<0.000090	mg/kg	0.0059	0.000090	1	11/29/16 13:49	11/30/16 20:25	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0059	0.00015	1	11/29/16 13:49	11/30/16 20:25	75-27-4	
Bromoform	<0.00025	mg/kg	0.0059	0.00025	1	11/29/16 13:49	11/30/16 20:25	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	11/29/16 13:49	11/30/16 20:25	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0059	0.00020	1	11/29/16 13:49	11/30/16 20:25	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0059	0.00012	1	11/29/16 13:49	11/30/16 20:25	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0059	0.00024	1	11/29/16 13:49	11/30/16 20:25	75-00-3	
Chloroform	<0.000078	mg/kg	0.0059	0.000078	1	11/29/16 13:49	11/30/16 20:25	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0059	0.00015	1	11/29/16 13:49	11/30/16 20:25	74-87-3	
Dibromochloromethane	<0.000096	mg/kg	0.0059	0.000096	1	11/29/16 13:49	11/30/16 20:25	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0059	0.00013	1	11/29/16 13:49	11/30/16 20:25	75-71-8	
Ethylbenzene	<0.000063	mg/kg	0.0059	0.000063	1	11/29/16 13:49	11/30/16 20:25	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0059	0.00018	1	11/29/16 13:49	11/30/16 20:25	87-68-3	
Methyl-tert-butyl ether	<0.000068	mg/kg	0.0059	0.000068	1	11/29/16 13:49	11/30/16 20:25	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0059	0.00013	1	11/29/16 13:49	11/30/16 20:25	75-09-2	
Naphthalene	0.00013J	mg/kg	0.0059	0.00010	1	11/29/16 13:49	11/30/16 20:25	91-20-3	
Styrene	<0.00010	mg/kg	0.0059	0.00010	1	11/29/16 13:49	11/30/16 20:25	100-42-5	
Tetrachloroethene	<0.000069	mg/kg	0.0059	0.000069	1	11/29/16 13:49	11/30/16 20:25	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	11/29/16 13:49	11/30/16 20:25	109-99-9	
Toluene	<0.00011	mg/kg	0.0059	0.00011	1	11/29/16 13:49	11/30/16 20:25	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0059	0.00017	1	11/29/16 13:49	11/30/16 20:25	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0059	0.00019	1	11/29/16 13:49	11/30/16 20:25	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0059	0.00018	1	11/29/16 13:49	11/30/16 20:25	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0059	0.00014	1	11/29/16 13:49	11/30/16 20:25	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0059	0.00013	1	11/29/16 13:49	11/30/16 20:25	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0059	0.0029	1	11/29/16 13:49	11/30/16 20:25	179601-23-1	
o-Xylene	<0.000094	mg/kg	0.0059	0.000094	1	11/29/16 13:49	11/30/16 20:25	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-5 **Lab ID: 1279470007** Collected: 11/19/16 14:45 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	11/29/16 13:49	11/30/16 20:25	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0059	0.00014	1	11/29/16 13:49	11/30/16 20:25	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	70-130		1	11/29/16 13:49	11/30/16 20:25	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	11/29/16 13:49	11/30/16 20:25	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1	11/29/16 13:49	11/30/16 20:25	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	16.7	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB26-SS-10** Lab ID: **1279470008** Collected: 11/19/16 15:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0070	0.00016	1	11/29/16 13:49	11/30/16 20:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0035	mg/kg	0.0070	0.0035	1	11/29/16 13:49	11/30/16 20:45	79-34-5	
1,1,2-Trichloroethane	<0.00020	mg/kg	0.0070	0.00020	1	11/29/16 13:49	11/30/16 20:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00019	mg/kg	0.0070	0.00019	1	11/29/16 13:49	11/30/16 20:45	76-13-1	
1,1-Dichloroethane	<0.00016	mg/kg	0.0070	0.00016	1	11/29/16 13:49	11/30/16 20:45	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0070	0.00019	1	11/29/16 13:49	11/30/16 20:45	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0070	0.00017	1	11/29/16 13:49	11/30/16 20:45	120-82-1	
1,2,4-Trimethylbenzene	<0.00014	mg/kg	0.0070	0.00014	1	11/29/16 13:49	11/30/16 20:45	95-63-6	
1,2-Dibromoethane (EDB)	<0.00010	mg/kg	0.0070	0.00010	1	11/29/16 13:49	11/30/16 20:45	106-93-4	
1,2-Dichlorobenzene	<0.000099	mg/kg	0.0070	0.000099	1	11/29/16 13:49	11/30/16 20:45	95-50-1	
1,2-Dichloroethane	<0.0035	mg/kg	0.0070	0.0035	1	11/29/16 13:49	11/30/16 20:45	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0070	0.00012	1	11/29/16 13:49	11/30/16 20:45	108-67-8	
1,3-Dichlorobenzene	<0.000073	mg/kg	0.0070	0.000073	1	11/29/16 13:49	11/30/16 20:45	541-73-1	
1,4-Dichlorobenzene	<0.00020	mg/kg	0.0070	0.00020	1	11/29/16 13:49	11/30/16 20:45	106-46-7	
2-Butanone (MEK)	<0.0032	mg/kg	0.070	0.0032	1	11/29/16 13:49	11/30/16 20:45	78-93-3	
2-Hexanone	<0.00070	mg/kg	0.070	0.00070	1	11/29/16 13:49	11/30/16 20:45	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00054	mg/kg	0.070	0.00054	1	11/29/16 13:49	11/30/16 20:45	108-10-1	
Acetone	0.0078J	mg/kg	0.070	0.00077	1	11/29/16 13:49	11/30/16 20:45	67-64-1	
Benzene	<0.00011	mg/kg	0.0070	0.00011	1	11/29/16 13:49	11/30/16 20:45	71-43-2	
Bromodichloromethane	<0.00017	mg/kg	0.0070	0.00017	1	11/29/16 13:49	11/30/16 20:45	75-27-4	
Bromoform	<0.00030	mg/kg	0.0070	0.00030	1	11/29/16 13:49	11/30/16 20:45	75-25-2	
Bromomethane	<0.00023	mg/kg	0.028	0.00023	1	11/29/16 13:49	11/30/16 20:45	74-83-9	
Carbon tetrachloride	<0.00024	mg/kg	0.0070	0.00024	1	11/29/16 13:49	11/30/16 20:45	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0070	0.00014	1	11/29/16 13:49	11/30/16 20:45	108-90-7	
Chloroethane	<0.00028	mg/kg	0.0070	0.00028	1	11/29/16 13:49	11/30/16 20:45	75-00-3	
Chloroform	<0.000092	mg/kg	0.0070	0.000092	1	11/29/16 13:49	11/30/16 20:45	67-66-3	
Chloromethane	<0.00018	mg/kg	0.0070	0.00018	1	11/29/16 13:49	11/30/16 20:45	74-87-3	
Dibromochloromethane	<0.00011	mg/kg	0.0070	0.00011	1	11/29/16 13:49	11/30/16 20:45	124-48-1	
Dichlorodifluoromethane	<0.00015	mg/kg	0.0070	0.00015	1	11/29/16 13:49	11/30/16 20:45	75-71-8	
Ethylbenzene	<0.000074	mg/kg	0.0070	0.000074	1	11/29/16 13:49	11/30/16 20:45	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0070	0.00021	1	11/29/16 13:49	11/30/16 20:45	87-68-3	
Methyl-tert-butyl ether	<0.000081	mg/kg	0.0070	0.000081	1	11/29/16 13:49	11/30/16 20:45	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0070	0.00016	1	11/29/16 13:49	11/30/16 20:45	75-09-2	
Naphthalene	0.00014J	mg/kg	0.0070	0.00012	1	11/29/16 13:49	11/30/16 20:45	91-20-3	
Styrene	<0.00012	mg/kg	0.0070	0.00012	1	11/29/16 13:49	11/30/16 20:45	100-42-5	
Tetrachloroethene	<0.000082	mg/kg	0.0070	0.000082	1	11/29/16 13:49	11/30/16 20:45	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.14	0.0019	1	11/29/16 13:49	11/30/16 20:45	109-99-9	
Toluene	<0.00013	mg/kg	0.0070	0.00013	1	11/29/16 13:49	11/30/16 20:45	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0070	0.00020	1	11/29/16 13:49	11/30/16 20:45	79-01-6	
Trichlorofluoromethane	<0.00022	mg/kg	0.0070	0.00022	1	11/29/16 13:49	11/30/16 20:45	75-69-4	
Vinyl chloride	<0.00021	mg/kg	0.0070	0.00021	1	11/29/16 13:49	11/30/16 20:45	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0070	0.00017	1	11/29/16 13:49	11/30/16 20:45	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0070	0.00016	1	11/29/16 13:49	11/30/16 20:45	10061-01-5	
m&p-Xylene	<0.0035	mg/kg	0.0070	0.0035	1	11/29/16 13:49	11/30/16 20:45	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0070	0.00011	1	11/29/16 13:49	11/30/16 20:45	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-10 **Lab ID: 1279470008** Collected: 11/19/16 15:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00018	mg/kg	0.0070	0.00018	1	11/29/16 13:49	11/30/16 20:45	156-60-5	
trans-1,3-Dichloropropene	<0.00016	mg/kg	0.0070	0.00016	1	11/29/16 13:49	11/30/16 20:45	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	11/29/16 13:49	11/30/16 20:45	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	11/29/16 13:49	11/30/16 20:45	2037-26-5	
4-Bromofluorobenzene (S)	85	%	70-130		1	11/29/16 13:49	11/30/16 20:45	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	29.3	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-15 Lab ID: 1279470009 Collected: 11/19/16 15:15 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 12:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0037	mg/kg	0.0074	0.0037	1	12/01/16 09:12	12/01/16 12:49	79-34-5	
1,1,2-Trichloroethane	<0.00021	mg/kg	0.0074	0.00021	1	12/01/16 09:12	12/01/16 12:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0074	0.00020	1	12/01/16 09:12	12/01/16 12:49	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 12:49	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0074	0.00020	1	12/01/16 09:12	12/01/16 12:49	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0074	0.00018	1	12/01/16 09:12	12/01/16 12:49	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0074	0.00015	1	12/01/16 09:12	12/01/16 12:49	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0074	0.00011	1	12/01/16 09:12	12/01/16 12:49	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0074	0.00010	1	12/01/16 09:12	12/01/16 12:49	95-50-1	
1,2-Dichloroethane	<0.0037	mg/kg	0.0074	0.0037	1	12/01/16 09:12	12/01/16 12:49	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0074	0.00012	1	12/01/16 09:12	12/01/16 12:49	108-67-8	
1,3-Dichlorobenzene	<0.000077	mg/kg	0.0074	0.000077	1	12/01/16 09:12	12/01/16 12:49	541-73-1	
1,4-Dichlorobenzene	<0.00021	mg/kg	0.0074	0.00021	1	12/01/16 09:12	12/01/16 12:49	106-46-7	
2-Butanone (MEK)	<0.0034	mg/kg	0.074	0.0034	1	12/01/16 09:12	12/01/16 12:49	78-93-3	
2-Hexanone	<0.00074	mg/kg	0.074	0.00074	1	12/01/16 09:12	12/01/16 12:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00057	mg/kg	0.074	0.00057	1	12/01/16 09:12	12/01/16 12:49	108-10-1	
Acetone	0.0036J	mg/kg	0.074	0.00082	1	12/01/16 09:12	12/01/16 12:49	67-64-1	
Benzene	<0.00011	mg/kg	0.0074	0.00011	1	12/01/16 09:12	12/01/16 12:49	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0074	0.00018	1	12/01/16 09:12	12/01/16 12:49	75-27-4	
Bromoform	<0.00031	mg/kg	0.0074	0.00031	1	12/01/16 09:12	12/01/16 12:49	75-25-2	
Bromomethane	<0.00025	mg/kg	0.029	0.00025	1	12/01/16 09:12	12/01/16 12:49	74-83-9	
Carbon tetrachloride	<0.00025	mg/kg	0.0074	0.00025	1	12/01/16 09:12	12/01/16 12:49	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0074	0.00015	1	12/01/16 09:12	12/01/16 12:49	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0074	0.00030	1	12/01/16 09:12	12/01/16 12:49	75-00-3	
Chloroform	<0.000097	mg/kg	0.0074	0.000097	1	12/01/16 09:12	12/01/16 12:49	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0074	0.00019	1	12/01/16 09:12	12/01/16 12:49	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0074	0.00012	1	12/01/16 09:12	12/01/16 12:49	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0074	0.00016	1	12/01/16 09:12	12/01/16 12:49	75-71-8	
Ethylbenzene	<0.000078	mg/kg	0.0074	0.000078	1	12/01/16 09:12	12/01/16 12:49	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0074	0.00022	1	12/01/16 09:12	12/01/16 12:49	87-68-3	
Methyl-tert-butyl ether	<0.000085	mg/kg	0.0074	0.000085	1	12/01/16 09:12	12/01/16 12:49	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 12:49	75-09-2	
Naphthalene	<0.00013	mg/kg	0.0074	0.00013	1	12/01/16 09:12	12/01/16 12:49	91-20-3	
Styrene	<0.00013	mg/kg	0.0074	0.00013	1	12/01/16 09:12	12/01/16 12:49	100-42-5	
Tetrachloroethene	<0.000087	mg/kg	0.0074	0.000087	1	12/01/16 09:12	12/01/16 12:49	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 12:49	109-99-9	M1
Toluene	<0.00013	mg/kg	0.0074	0.00013	1	12/01/16 09:12	12/01/16 12:49	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0074	0.00021	1	12/01/16 09:12	12/01/16 12:49	79-01-6	
Trichlorofluoromethane	<0.00023	mg/kg	0.0074	0.00023	1	12/01/16 09:12	12/01/16 12:49	75-69-4	
Vinyl chloride	<0.00022	mg/kg	0.0074	0.00022	1	12/01/16 09:12	12/01/16 12:49	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0074	0.00018	1	12/01/16 09:12	12/01/16 12:49	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 12:49	10061-01-5	
m&p-Xylene	<0.0037	mg/kg	0.0074	0.0037	1	12/01/16 09:12	12/01/16 12:49	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0074	0.00012	1	12/01/16 09:12	12/01/16 12:49	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-15 **Lab ID: 1279470009** Collected: 11/19/16 15:15 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0074	0.00019	1	12/01/16 09:12	12/01/16 12:49	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 12:49	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1	12/01/16 09:12	12/01/16 12:49	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 12:49	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		1	12/01/16 09:12	12/01/16 12:49	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	34.9	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB26-SS-20** Lab ID: **1279470010** Collected: 11/19/16 15:30 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 14:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 14:49	79-34-5	
1,1,2-Trichloroethane	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 14:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 14:49	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 14:49	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 14:49	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 14:49	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0075	0.00016	1	12/01/16 09:12	12/01/16 14:49	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 14:49	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 14:49	95-50-1	
1,2-Dichloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 14:49	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 14:49	108-67-8	
1,3-Dichlorobenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 14:49	541-73-1	
1,4-Dichlorobenzene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 14:49	106-46-7	
2-Butanone (MEK)	<0.0035	mg/kg	0.075	0.0035	1	12/01/16 09:12	12/01/16 14:49	78-93-3	
2-Hexanone	<0.00076	mg/kg	0.075	0.00076	1	12/01/16 09:12	12/01/16 14:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00058	mg/kg	0.075	0.00058	1	12/01/16 09:12	12/01/16 14:49	108-10-1	
Acetone	0.0096J	mg/kg	0.075	0.00083	1	12/01/16 09:12	12/01/16 14:49	67-64-1	
Benzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 14:49	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 14:49	75-27-4	
Bromoform	<0.00032	mg/kg	0.0075	0.00032	1	12/01/16 09:12	12/01/16 14:49	75-25-2	
Bromomethane	<0.00025	mg/kg	0.030	0.00025	1	12/01/16 09:12	12/01/16 14:49	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0075	0.00026	1	12/01/16 09:12	12/01/16 14:49	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0075	0.00015	1	12/01/16 09:12	12/01/16 14:49	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0075	0.00030	1	12/01/16 09:12	12/01/16 14:49	75-00-3	
Chloroform	<0.000099	mg/kg	0.0075	0.000099	1	12/01/16 09:12	12/01/16 14:49	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 14:49	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 14:49	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 14:49	75-71-8	
Ethylbenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 14:49	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 14:49	87-68-3	
Methyl-tert-butyl ether	<0.000086	mg/kg	0.0075	0.000086	1	12/01/16 09:12	12/01/16 14:49	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 14:49	75-09-2	
Naphthalene	0.00032J	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 14:49	91-20-3	
Styrene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 14:49	100-42-5	
Tetrachloroethene	<0.000088	mg/kg	0.0075	0.000088	1	12/01/16 09:12	12/01/16 14:49	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 14:49	109-99-9	
Toluene	<0.00014	mg/kg	0.0075	0.00014	1	12/01/16 09:12	12/01/16 14:49	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 14:49	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0075	0.00024	1	12/01/16 09:12	12/01/16 14:49	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0075	0.00023	1	12/01/16 09:12	12/01/16 14:49	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 14:49	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 14:49	10061-01-5	
m&p-Xylene	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 14:49	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 14:49	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-20 **Lab ID: 1279470010** Collected: 11/19/16 15:30 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 14:49	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 14:49	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1	12/01/16 09:12	12/01/16 14:49	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 14:49	2037-26-5	
4-Bromofluorobenzene (S)	87	%	70-130		1	12/01/16 09:12	12/01/16 14:49	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	33.3	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB26-SS-25** Lab ID: **1279470011** Collected: 11/19/16 15:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:09	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0038	mg/kg	0.0075	0.0038	1	12/01/16 09:12	12/01/16 15:09	79-34-5	
1,1,2-Trichloroethane	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 15:09	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 15:09	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:09	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 15:09	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 15:09	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0075	0.00016	1	12/01/16 09:12	12/01/16 15:09	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 15:09	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 15:09	95-50-1	
1,2-Dichloroethane	<0.0038	mg/kg	0.0075	0.0038	1	12/01/16 09:12	12/01/16 15:09	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 15:09	108-67-8	
1,3-Dichlorobenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 15:09	541-73-1	
1,4-Dichlorobenzene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 15:09	106-46-7	
2-Butanone (MEK)	<0.0035	mg/kg	0.075	0.0035	1	12/01/16 09:12	12/01/16 15:09	78-93-3	
2-Hexanone	<0.00076	mg/kg	0.075	0.00076	1	12/01/16 09:12	12/01/16 15:09	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00059	mg/kg	0.075	0.00059	1	12/01/16 09:12	12/01/16 15:09	108-10-1	
Acetone	0.0062J	mg/kg	0.075	0.00083	1	12/01/16 09:12	12/01/16 15:09	67-64-1	
Benzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 15:09	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 15:09	75-27-4	
Bromoform	<0.00032	mg/kg	0.0075	0.00032	1	12/01/16 09:12	12/01/16 15:09	75-25-2	
Bromomethane	<0.00025	mg/kg	0.030	0.00025	1	12/01/16 09:12	12/01/16 15:09	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0075	0.00026	1	12/01/16 09:12	12/01/16 15:09	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0075	0.00015	1	12/01/16 09:12	12/01/16 15:09	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0075	0.00030	1	12/01/16 09:12	12/01/16 15:09	75-00-3	
Chloroform	<0.000099	mg/kg	0.0075	0.000099	1	12/01/16 09:12	12/01/16 15:09	67-66-3	
Chloromethane	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 15:09	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 15:09	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:09	75-71-8	
Ethylbenzene	<0.000080	mg/kg	0.0075	0.000080	1	12/01/16 09:12	12/01/16 15:09	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 15:09	87-68-3	
Methyl-tert-butyl ether	<0.000087	mg/kg	0.0075	0.000087	1	12/01/16 09:12	12/01/16 15:09	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:09	75-09-2	
Naphthalene	0.00015J	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 15:09	91-20-3	
Styrene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 15:09	100-42-5	
Tetrachloroethene	<0.000088	mg/kg	0.0075	0.000088	1	12/01/16 09:12	12/01/16 15:09	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 15:09	109-99-9	
Toluene	<0.00014	mg/kg	0.0075	0.00014	1	12/01/16 09:12	12/01/16 15:09	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 15:09	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0075	0.00024	1	12/01/16 09:12	12/01/16 15:09	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0075	0.00023	1	12/01/16 09:12	12/01/16 15:09	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 15:09	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:09	10061-01-5	
m&p-Xylene	<0.0038	mg/kg	0.0075	0.0038	1	12/01/16 09:12	12/01/16 15:09	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 15:09	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-25 **Lab ID: 1279470011** Collected: 11/19/16 15:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 15:09	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:09	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1	12/01/16 09:12	12/01/16 15:09	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 15:09	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1	12/01/16 09:12	12/01/16 15:09	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	35.7	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB26-SS-30** Lab ID: **1279470012** Collected: 11/19/16 16:10 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 15:29	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0037	mg/kg	0.0074	0.0037	1	12/01/16 09:12	12/01/16 15:29	79-34-5	
1,1,2-Trichloroethane	<0.00021	mg/kg	0.0074	0.00021	1	12/01/16 09:12	12/01/16 15:29	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0074	0.00020	1	12/01/16 09:12	12/01/16 15:29	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 15:29	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0074	0.00020	1	12/01/16 09:12	12/01/16 15:29	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0074	0.00018	1	12/01/16 09:12	12/01/16 15:29	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0074	0.00015	1	12/01/16 09:12	12/01/16 15:29	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0074	0.00011	1	12/01/16 09:12	12/01/16 15:29	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0074	0.00010	1	12/01/16 09:12	12/01/16 15:29	95-50-1	
1,2-Dichloroethane	<0.0037	mg/kg	0.0074	0.0037	1	12/01/16 09:12	12/01/16 15:29	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0074	0.00012	1	12/01/16 09:12	12/01/16 15:29	108-67-8	
1,3-Dichlorobenzene	<0.000077	mg/kg	0.0074	0.000077	1	12/01/16 09:12	12/01/16 15:29	541-73-1	
1,4-Dichlorobenzene	<0.00021	mg/kg	0.0074	0.00021	1	12/01/16 09:12	12/01/16 15:29	106-46-7	
2-Butanone (MEK)	<0.0034	mg/kg	0.074	0.0034	1	12/01/16 09:12	12/01/16 15:29	78-93-3	
2-Hexanone	<0.00074	mg/kg	0.074	0.00074	1	12/01/16 09:12	12/01/16 15:29	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00057	mg/kg	0.074	0.00057	1	12/01/16 09:12	12/01/16 15:29	108-10-1	
Acetone	0.0073J	mg/kg	0.074	0.00082	1	12/01/16 09:12	12/01/16 15:29	67-64-1	
Benzene	<0.00011	mg/kg	0.0074	0.00011	1	12/01/16 09:12	12/01/16 15:29	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0074	0.00018	1	12/01/16 09:12	12/01/16 15:29	75-27-4	
Bromoform	<0.00031	mg/kg	0.0074	0.00031	1	12/01/16 09:12	12/01/16 15:29	75-25-2	
Bromomethane	<0.00025	mg/kg	0.029	0.00025	1	12/01/16 09:12	12/01/16 15:29	74-83-9	
Carbon tetrachloride	<0.00025	mg/kg	0.0074	0.00025	1	12/01/16 09:12	12/01/16 15:29	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0074	0.00015	1	12/01/16 09:12	12/01/16 15:29	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0074	0.00030	1	12/01/16 09:12	12/01/16 15:29	75-00-3	
Chloroform	<0.000097	mg/kg	0.0074	0.000097	1	12/01/16 09:12	12/01/16 15:29	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0074	0.00019	1	12/01/16 09:12	12/01/16 15:29	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0074	0.00012	1	12/01/16 09:12	12/01/16 15:29	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0074	0.00016	1	12/01/16 09:12	12/01/16 15:29	75-71-8	
Ethylbenzene	<0.000078	mg/kg	0.0074	0.000078	1	12/01/16 09:12	12/01/16 15:29	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0074	0.00022	1	12/01/16 09:12	12/01/16 15:29	87-68-3	
Methyl-tert-butyl ether	<0.000085	mg/kg	0.0074	0.000085	1	12/01/16 09:12	12/01/16 15:29	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 15:29	75-09-2	
Naphthalene	0.00018J	mg/kg	0.0074	0.00013	1	12/01/16 09:12	12/01/16 15:29	91-20-3	
Styrene	<0.00013	mg/kg	0.0074	0.00013	1	12/01/16 09:12	12/01/16 15:29	100-42-5	
Tetrachloroethene	<0.000086	mg/kg	0.0074	0.000086	1	12/01/16 09:12	12/01/16 15:29	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 15:29	109-99-9	
Toluene	<0.00013	mg/kg	0.0074	0.00013	1	12/01/16 09:12	12/01/16 15:29	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0074	0.00021	1	12/01/16 09:12	12/01/16 15:29	79-01-6	
Trichlorofluoromethane	<0.00023	mg/kg	0.0074	0.00023	1	12/01/16 09:12	12/01/16 15:29	75-69-4	
Vinyl chloride	<0.00022	mg/kg	0.0074	0.00022	1	12/01/16 09:12	12/01/16 15:29	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0074	0.00018	1	12/01/16 09:12	12/01/16 15:29	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 15:29	10061-01-5	
m&p-Xylene	<0.0037	mg/kg	0.0074	0.0037	1	12/01/16 09:12	12/01/16 15:29	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0074	0.00012	1	12/01/16 09:12	12/01/16 15:29	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-30 **Lab ID: 1279470012** Collected: 11/19/16 16:10 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0074	0.00019	1	12/01/16 09:12	12/01/16 15:29	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0074	0.00017	1	12/01/16 09:12	12/01/16 15:29	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1	12/01/16 09:12	12/01/16 15:29	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 15:29	2037-26-5	
4-Bromofluorobenzene (S)	88	%	70-130		1	12/01/16 09:12	12/01/16 15:29	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	33.5	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB26-SS-31** Lab ID: **1279470013** Collected: 11/19/16 16:24 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 15:49	79-34-5	
1,1,2-Trichloroethane	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 15:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 15:49	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:49	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 15:49	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 15:49	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0075	0.00016	1	12/01/16 09:12	12/01/16 15:49	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 15:49	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 15:49	95-50-1	
1,2-Dichloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 15:49	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 15:49	108-67-8	
1,3-Dichlorobenzene	<0.000078	mg/kg	0.0075	0.000078	1	12/01/16 09:12	12/01/16 15:49	541-73-1	
1,4-Dichlorobenzene	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 15:49	106-46-7	
2-Butanone (MEK)	<0.0035	mg/kg	0.075	0.0035	1	12/01/16 09:12	12/01/16 15:49	78-93-3	
2-Hexanone	<0.00075	mg/kg	0.075	0.00075	1	12/01/16 09:12	12/01/16 15:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00058	mg/kg	0.075	0.00058	1	12/01/16 09:12	12/01/16 15:49	108-10-1	
Acetone	0.0059J	mg/kg	0.075	0.00083	1	12/01/16 09:12	12/01/16 15:49	67-64-1	
Benzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 15:49	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 15:49	75-27-4	
Bromoform	<0.00032	mg/kg	0.0075	0.00032	1	12/01/16 09:12	12/01/16 15:49	75-25-2	
Bromomethane	<0.00025	mg/kg	0.030	0.00025	1	12/01/16 09:12	12/01/16 15:49	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0075	0.00026	1	12/01/16 09:12	12/01/16 15:49	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0075	0.00015	1	12/01/16 09:12	12/01/16 15:49	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0075	0.00030	1	12/01/16 09:12	12/01/16 15:49	75-00-3	
Chloroform	<0.000099	mg/kg	0.0075	0.000099	1	12/01/16 09:12	12/01/16 15:49	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 15:49	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 15:49	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:49	75-71-8	
Ethylbenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 15:49	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 15:49	87-68-3	
Methyl-tert-butyl ether	<0.000086	mg/kg	0.0075	0.000086	1	12/01/16 09:12	12/01/16 15:49	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:49	75-09-2	
Naphthalene	0.00014J	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 15:49	91-20-3	
Styrene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 15:49	100-42-5	
Tetrachloroethene	<0.000088	mg/kg	0.0075	0.000088	1	12/01/16 09:12	12/01/16 15:49	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 15:49	109-99-9	
Toluene	<0.00014	mg/kg	0.0075	0.00014	1	12/01/16 09:12	12/01/16 15:49	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 15:49	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0075	0.00024	1	12/01/16 09:12	12/01/16 15:49	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0075	0.00023	1	12/01/16 09:12	12/01/16 15:49	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 15:49	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:49	10061-01-5	
m&p-Xylene	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 15:49	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 15:49	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB26-SS-31 **Lab ID: 1279470013** Collected: 11/19/16 16:24 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 15:49	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 15:49	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/01/16 09:12	12/01/16 15:49	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 15:49	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1	12/01/16 09:12	12/01/16 15:49	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	36.0	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB27-SS-5** Lab ID: **1279470014** Collected: 11/20/16 08:15 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0064	0.00014	1	12/01/16 09:12	12/01/16 16:09	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0032	mg/kg	0.0064	0.0032	1	12/01/16 09:12	12/01/16 16:09	79-34-5	
1,1,2-Trichloroethane	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:09	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:09	76-13-1	
1,1-Dichloroethane	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:09	75-34-3	
1,1-Dichloroethene	<0.00017	mg/kg	0.0064	0.00017	1	12/01/16 09:12	12/01/16 16:09	75-35-4	
1,2,4-Trichlorobenzene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:09	120-82-1	
1,2,4-Trimethylbenzene	<0.00013	mg/kg	0.0064	0.00013	1	12/01/16 09:12	12/01/16 16:09	95-63-6	
1,2-Dibromoethane (EDB)	<0.000093	mg/kg	0.0064	0.000093	1	12/01/16 09:12	12/01/16 16:09	106-93-4	
1,2-Dichlorobenzene	<0.000091	mg/kg	0.0064	0.000091	1	12/01/16 09:12	12/01/16 16:09	95-50-1	
1,2-Dichloroethane	<0.0032	mg/kg	0.0064	0.0032	1	12/01/16 09:12	12/01/16 16:09	107-06-2	
1,3,5-Trimethylbenzene	<0.00011	mg/kg	0.0064	0.00011	1	12/01/16 09:12	12/01/16 16:09	108-67-8	
1,3-Dichlorobenzene	<0.000067	mg/kg	0.0064	0.000067	1	12/01/16 09:12	12/01/16 16:09	541-73-1	
1,4-Dichlorobenzene	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:09	106-46-7	
2-Butanone (MEK)	0.0063J	mg/kg	0.064	0.0029	1	12/01/16 09:12	12/01/16 16:09	78-93-3	
2-Hexanone	<0.00064	mg/kg	0.064	0.00064	1	12/01/16 09:12	12/01/16 16:09	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00050	mg/kg	0.064	0.00050	1	12/01/16 09:12	12/01/16 16:09	108-10-1	
Acetone	0.035J	mg/kg	0.064	0.00070	1	12/01/16 09:12	12/01/16 16:09	67-64-1	
Benzene	<0.000096	mg/kg	0.0064	0.000096	1	12/01/16 09:12	12/01/16 16:09	71-43-2	
Bromodichloromethane	<0.00016	mg/kg	0.0064	0.00016	1	12/01/16 09:12	12/01/16 16:09	75-27-4	
Bromoform	<0.00027	mg/kg	0.0064	0.00027	1	12/01/16 09:12	12/01/16 16:09	75-25-2	
Bromomethane	<0.00021	mg/kg	0.025	0.00021	1	12/01/16 09:12	12/01/16 16:09	74-83-9	
Carbon tetrachloride	<0.00022	mg/kg	0.0064	0.00022	1	12/01/16 09:12	12/01/16 16:09	56-23-5	
Chlorobenzene	<0.00013	mg/kg	0.0064	0.00013	1	12/01/16 09:12	12/01/16 16:09	108-90-7	
Chloroethane	<0.00026	mg/kg	0.0064	0.00026	1	12/01/16 09:12	12/01/16 16:09	75-00-3	
Chloroform	<0.000084	mg/kg	0.0064	0.000084	1	12/01/16 09:12	12/01/16 16:09	67-66-3	
Chloromethane	<0.00017	mg/kg	0.0064	0.00017	1	12/01/16 09:12	12/01/16 16:09	74-87-3	
Dibromochloromethane	<0.00010	mg/kg	0.0064	0.00010	1	12/01/16 09:12	12/01/16 16:09	124-48-1	
Dichlorodifluoromethane	<0.00014	mg/kg	0.0064	0.00014	1	12/01/16 09:12	12/01/16 16:09	75-71-8	
Ethylbenzene	<0.000068	mg/kg	0.0064	0.000068	1	12/01/16 09:12	12/01/16 16:09	100-41-4	
Hexachloro-1,3-butadiene	<0.00019	mg/kg	0.0064	0.00019	1	12/01/16 09:12	12/01/16 16:09	87-68-3	
Methyl-tert-butyl ether	<0.000073	mg/kg	0.0064	0.000073	1	12/01/16 09:12	12/01/16 16:09	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0064	0.00014	1	12/01/16 09:12	12/01/16 16:09	75-09-2	
Naphthalene	0.00013J	mg/kg	0.0064	0.00011	1	12/01/16 09:12	12/01/16 16:09	91-20-3	
Styrene	<0.00011	mg/kg	0.0064	0.00011	1	12/01/16 09:12	12/01/16 16:09	100-42-5	
Tetrachloroethene	<0.000075	mg/kg	0.0064	0.000075	1	12/01/16 09:12	12/01/16 16:09	127-18-4	
Tetrahydrofuran	<0.0017	mg/kg	0.13	0.0017	1	12/01/16 09:12	12/01/16 16:09	109-99-9	
Toluene	<0.00012	mg/kg	0.0064	0.00012	1	12/01/16 09:12	12/01/16 16:09	108-88-3	
Trichloroethene	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:09	79-01-6	
Trichlorofluoromethane	<0.00020	mg/kg	0.0064	0.00020	1	12/01/16 09:12	12/01/16 16:09	75-69-4	
Vinyl chloride	<0.00019	mg/kg	0.0064	0.00019	1	12/01/16 09:12	12/01/16 16:09	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:09	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0064	0.00014	1	12/01/16 09:12	12/01/16 16:09	10061-01-5	
m&p-Xylene	<0.0032	mg/kg	0.0064	0.0032	1	12/01/16 09:12	12/01/16 16:09	179601-23-1	
o-Xylene	<0.00010	mg/kg	0.0064	0.00010	1	12/01/16 09:12	12/01/16 16:09	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB27-SS-5 **Lab ID: 1279470014** Collected: 11/20/16 08:15 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00017	mg/kg	0.0064	0.00017	1	12/01/16 09:12	12/01/16 16:09	156-60-5	
trans-1,3-Dichloropropene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:09	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1	12/01/16 09:12	12/01/16 16:09	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 16:09	2037-26-5	
4-Bromofluorobenzene (S)	85	%	70-130		1	12/01/16 09:12	12/01/16 16:09	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	25.2	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB27-SS-10** Lab ID: **1279470015** Collected: 11/20/16 08:27 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0060	0.00014	1	12/01/16 09:12	12/01/16 16:29	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0030	mg/kg	0.0060	0.0030	1	12/01/16 09:12	12/01/16 16:29	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0060	0.00017	1	12/01/16 09:12	12/01/16 16:29	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00017	mg/kg	0.0060	0.00017	1	12/01/16 09:12	12/01/16 16:29	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0060	0.00014	1	12/01/16 09:12	12/01/16 16:29	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0060	0.00016	1	12/01/16 09:12	12/01/16 16:29	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0060	0.00014	1	12/01/16 09:12	12/01/16 16:29	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0060	0.00012	1	12/01/16 09:12	12/01/16 16:29	95-63-6	
1,2-Dibromoethane (EDB)	<0.000088	mg/kg	0.0060	0.000088	1	12/01/16 09:12	12/01/16 16:29	106-93-4	
1,2-Dichlorobenzene	<0.000085	mg/kg	0.0060	0.000085	1	12/01/16 09:12	12/01/16 16:29	95-50-1	
1,2-Dichloroethane	<0.0030	mg/kg	0.0060	0.0030	1	12/01/16 09:12	12/01/16 16:29	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0060	0.00010	1	12/01/16 09:12	12/01/16 16:29	108-67-8	
1,3-Dichlorobenzene	<0.000063	mg/kg	0.0060	0.000063	1	12/01/16 09:12	12/01/16 16:29	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0060	0.00017	1	12/01/16 09:12	12/01/16 16:29	106-46-7	
2-Butanone (MEK)	<0.0028	mg/kg	0.060	0.0028	1	12/01/16 09:12	12/01/16 16:29	78-93-3	
2-Hexanone	<0.00061	mg/kg	0.060	0.00061	1	12/01/16 09:12	12/01/16 16:29	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00047	mg/kg	0.060	0.00047	1	12/01/16 09:12	12/01/16 16:29	108-10-1	
Acetone	<0.00066	mg/kg	0.060	0.00066	1	12/01/16 09:12	12/01/16 16:29	67-64-1	
Benzene	<0.000091	mg/kg	0.0060	0.000091	1	12/01/16 09:12	12/01/16 16:29	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0060	0.00015	1	12/01/16 09:12	12/01/16 16:29	75-27-4	
Bromoform	<0.00025	mg/kg	0.0060	0.00025	1	12/01/16 09:12	12/01/16 16:29	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	12/01/16 09:12	12/01/16 16:29	74-83-9	
Carbon tetrachloride	<0.00021	mg/kg	0.0060	0.00021	1	12/01/16 09:12	12/01/16 16:29	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0060	0.00012	1	12/01/16 09:12	12/01/16 16:29	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0060	0.00024	1	12/01/16 09:12	12/01/16 16:29	75-00-3	
Chloroform	<0.000079	mg/kg	0.0060	0.000079	1	12/01/16 09:12	12/01/16 16:29	67-66-3	
Chloromethane	<0.00016	mg/kg	0.0060	0.00016	1	12/01/16 09:12	12/01/16 16:29	74-87-3	
Dibromochloromethane	<0.000098	mg/kg	0.0060	0.000098	1	12/01/16 09:12	12/01/16 16:29	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0060	0.00013	1	12/01/16 09:12	12/01/16 16:29	75-71-8	
Ethylbenzene	<0.000064	mg/kg	0.0060	0.000064	1	12/01/16 09:12	12/01/16 16:29	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0060	0.00018	1	12/01/16 09:12	12/01/16 16:29	87-68-3	
Methyl-tert-butyl ether	<0.000069	mg/kg	0.0060	0.000069	1	12/01/16 09:12	12/01/16 16:29	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0060	0.00014	1	12/01/16 09:12	12/01/16 16:29	75-09-2	
Naphthalene	<0.00011	mg/kg	0.0060	0.00011	1	12/01/16 09:12	12/01/16 16:29	91-20-3	
Styrene	<0.00010	mg/kg	0.0060	0.00010	1	12/01/16 09:12	12/01/16 16:29	100-42-5	
Tetrachloroethene	<0.000070	mg/kg	0.0060	0.000070	1	12/01/16 09:12	12/01/16 16:29	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/01/16 09:12	12/01/16 16:29	109-99-9	
Toluene	<0.00011	mg/kg	0.0060	0.00011	1	12/01/16 09:12	12/01/16 16:29	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0060	0.00017	1	12/01/16 09:12	12/01/16 16:29	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0060	0.00019	1	12/01/16 09:12	12/01/16 16:29	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0060	0.00018	1	12/01/16 09:12	12/01/16 16:29	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0060	0.00015	1	12/01/16 09:12	12/01/16 16:29	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0060	0.00014	1	12/01/16 09:12	12/01/16 16:29	10061-01-5	
m&p-Xylene	<0.0030	mg/kg	0.0060	0.0030	1	12/01/16 09:12	12/01/16 16:29	179601-23-1	
o-Xylene	<0.000096	mg/kg	0.0060	0.000096	1	12/01/16 09:12	12/01/16 16:29	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB27-SS-10 **Lab ID: 1279470015** Collected: 11/20/16 08:27 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0060	0.00016	1	12/01/16 09:12	12/01/16 16:29	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0060	0.00014	1	12/01/16 09:12	12/01/16 16:29	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/01/16 09:12	12/01/16 16:29	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 16:29	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1	12/01/16 09:12	12/01/16 16:29	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	17.1	%	0.10	0.10	1		11/28/16 18:38		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB27-SS-15** Lab ID: **1279470016** Collected: 11/20/16 08:40 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0032	mg/kg	0.0064	0.0032	1	12/01/16 09:12	12/01/16 16:49	79-34-5	
1,1,2-Trichloroethane	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:49	76-13-1	
1,1-Dichloroethane	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:49	75-34-3	
1,1-Dichloroethene	<0.00017	mg/kg	0.0064	0.00017	1	12/01/16 09:12	12/01/16 16:49	75-35-4	
1,2,4-Trichlorobenzene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:49	120-82-1	
1,2,4-Trimethylbenzene	<0.00013	mg/kg	0.0064	0.00013	1	12/01/16 09:12	12/01/16 16:49	95-63-6	
1,2-Dibromoethane (EDB)	<0.000093	mg/kg	0.0064	0.000093	1	12/01/16 09:12	12/01/16 16:49	106-93-4	
1,2-Dichlorobenzene	<0.000091	mg/kg	0.0064	0.000091	1	12/01/16 09:12	12/01/16 16:49	95-50-1	
1,2-Dichloroethane	<0.0032	mg/kg	0.0064	0.0032	1	12/01/16 09:12	12/01/16 16:49	107-06-2	
1,3,5-Trimethylbenzene	<0.00011	mg/kg	0.0064	0.00011	1	12/01/16 09:12	12/01/16 16:49	108-67-8	
1,3-Dichlorobenzene	<0.000067	mg/kg	0.0064	0.000067	1	12/01/16 09:12	12/01/16 16:49	541-73-1	
1,4-Dichlorobenzene	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:49	106-46-7	
2-Butanone (MEK)	<0.0030	mg/kg	0.064	0.0030	1	12/01/16 09:12	12/01/16 16:49	78-93-3	
2-Hexanone	<0.00064	mg/kg	0.064	0.00064	1	12/01/16 09:12	12/01/16 16:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00050	mg/kg	0.064	0.00050	1	12/01/16 09:12	12/01/16 16:49	108-10-1	
Acetone	<0.00071	mg/kg	0.064	0.00071	1	12/01/16 09:12	12/01/16 16:49	67-64-1	
Benzene	<0.000097	mg/kg	0.0064	0.000097	1	12/01/16 09:12	12/01/16 16:49	71-43-2	
Bromodichloromethane	<0.00016	mg/kg	0.0064	0.00016	1	12/01/16 09:12	12/01/16 16:49	75-27-4	
Bromoform	<0.00027	mg/kg	0.0064	0.00027	1	12/01/16 09:12	12/01/16 16:49	75-25-2	
Bromomethane	<0.00021	mg/kg	0.025	0.00021	1	12/01/16 09:12	12/01/16 16:49	74-83-9	
Carbon tetrachloride	<0.00022	mg/kg	0.0064	0.00022	1	12/01/16 09:12	12/01/16 16:49	56-23-5	
Chlorobenzene	<0.00013	mg/kg	0.0064	0.00013	1	12/01/16 09:12	12/01/16 16:49	108-90-7	
Chloroethane	<0.00026	mg/kg	0.0064	0.00026	1	12/01/16 09:12	12/01/16 16:49	75-00-3	
Chloroform	<0.000084	mg/kg	0.0064	0.000084	1	12/01/16 09:12	12/01/16 16:49	67-66-3	
Chloromethane	<0.00017	mg/kg	0.0064	0.00017	1	12/01/16 09:12	12/01/16 16:49	74-87-3	
Dibromochloromethane	<0.00010	mg/kg	0.0064	0.00010	1	12/01/16 09:12	12/01/16 16:49	124-48-1	
Dichlorodifluoromethane	<0.00014	mg/kg	0.0064	0.00014	1	12/01/16 09:12	12/01/16 16:49	75-71-8	
Ethylbenzene	<0.000068	mg/kg	0.0064	0.000068	1	12/01/16 09:12	12/01/16 16:49	100-41-4	
Hexachloro-1,3-butadiene	<0.00019	mg/kg	0.0064	0.00019	1	12/01/16 09:12	12/01/16 16:49	87-68-3	
Methyl-tert-butyl ether	<0.000074	mg/kg	0.0064	0.000074	1	12/01/16 09:12	12/01/16 16:49	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0064	0.00014	1	12/01/16 09:12	12/01/16 16:49	75-09-2	
Naphthalene	<0.00011	mg/kg	0.0064	0.00011	1	12/01/16 09:12	12/01/16 16:49	91-20-3	
Styrene	<0.00011	mg/kg	0.0064	0.00011	1	12/01/16 09:12	12/01/16 16:49	100-42-5	
Tetrachloroethene	<0.000075	mg/kg	0.0064	0.000075	1	12/01/16 09:12	12/01/16 16:49	127-18-4	
Tetrahydrofuran	<0.0017	mg/kg	0.13	0.0017	1	12/01/16 09:12	12/01/16 16:49	109-99-9	
Toluene	<0.00012	mg/kg	0.0064	0.00012	1	12/01/16 09:12	12/01/16 16:49	108-88-3	
Trichloroethene	<0.00018	mg/kg	0.0064	0.00018	1	12/01/16 09:12	12/01/16 16:49	79-01-6	
Trichlorofluoromethane	<0.00020	mg/kg	0.0064	0.00020	1	12/01/16 09:12	12/01/16 16:49	75-69-4	
Vinyl chloride	<0.00019	mg/kg	0.0064	0.00019	1	12/01/16 09:12	12/01/16 16:49	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:49	156-59-2	
cis-1,3-Dichloropropene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:49	10061-01-5	
m&p-Xylene	<0.0032	mg/kg	0.0064	0.0032	1	12/01/16 09:12	12/01/16 16:49	179601-23-1	
o-Xylene	<0.00010	mg/kg	0.0064	0.00010	1	12/01/16 09:12	12/01/16 16:49	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman
Pace Project No.: 1279470

Sample: SB27-SS-15 **Lab ID: 1279470016** Collected: 11/20/16 08:40 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00017	mg/kg	0.0064	0.00017	1	12/01/16 09:12	12/01/16 16:49	156-60-5	
trans-1,3-Dichloropropene	<0.00015	mg/kg	0.0064	0.00015	1	12/01/16 09:12	12/01/16 16:49	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	70-130		1	12/01/16 09:12	12/01/16 16:49	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 16:49	2037-26-5	
4-Bromofluorobenzene (S)	85	%	70-130		1	12/01/16 09:12	12/01/16 16:49	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	23.5	%	0.10	0.10	1		11/28/16 18:46		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB27-SS-19** Lab ID: **1279470017** Collected: 11/20/16 08:48 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0073	0.00017	1	12/01/16 09:12	12/01/16 17:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0036	mg/kg	0.0073	0.0036	1	12/01/16 09:12	12/01/16 17:08	79-34-5	
1,1,2-Trichloroethane	<0.00021	mg/kg	0.0073	0.00021	1	12/01/16 09:12	12/01/16 17:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0073	0.00020	1	12/01/16 09:12	12/01/16 17:08	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0073	0.00017	1	12/01/16 09:12	12/01/16 17:08	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0073	0.00019	1	12/01/16 09:12	12/01/16 17:08	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0073	0.00017	1	12/01/16 09:12	12/01/16 17:08	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0073	0.00015	1	12/01/16 09:12	12/01/16 17:08	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0073	0.00011	1	12/01/16 09:12	12/01/16 17:08	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0073	0.00010	1	12/01/16 09:12	12/01/16 17:08	95-50-1	
1,2-Dichloroethane	<0.0036	mg/kg	0.0073	0.0036	1	12/01/16 09:12	12/01/16 17:08	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0073	0.00012	1	12/01/16 09:12	12/01/16 17:08	108-67-8	
1,3-Dichlorobenzene	<0.000076	mg/kg	0.0073	0.000076	1	12/01/16 09:12	12/01/16 17:08	541-73-1	
1,4-Dichlorobenzene	<0.00021	mg/kg	0.0073	0.00021	1	12/01/16 09:12	12/01/16 17:08	106-46-7	
2-Butanone (MEK)	<0.0034	mg/kg	0.073	0.0034	1	12/01/16 09:12	12/01/16 17:08	78-93-3	
2-Hexanone	<0.00073	mg/kg	0.073	0.00073	1	12/01/16 09:12	12/01/16 17:08	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00057	mg/kg	0.073	0.00057	1	12/01/16 09:12	12/01/16 17:08	108-10-1	
Acetone	0.0049J	mg/kg	0.073	0.00080	1	12/01/16 09:12	12/01/16 17:08	67-64-1	
Benzene	<0.00011	mg/kg	0.0073	0.00011	1	12/01/16 09:12	12/01/16 17:08	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0073	0.00018	1	12/01/16 09:12	12/01/16 17:08	75-27-4	
Bromoform	<0.00031	mg/kg	0.0073	0.00031	1	12/01/16 09:12	12/01/16 17:08	75-25-2	
Bromomethane	<0.00024	mg/kg	0.029	0.00024	1	12/01/16 09:12	12/01/16 17:08	74-83-9	
Carbon tetrachloride	<0.00025	mg/kg	0.0073	0.00025	1	12/01/16 09:12	12/01/16 17:08	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0073	0.00015	1	12/01/16 09:12	12/01/16 17:08	108-90-7	
Chloroethane	<0.00029	mg/kg	0.0073	0.00029	1	12/01/16 09:12	12/01/16 17:08	75-00-3	
Chloroform	<0.000096	mg/kg	0.0073	0.000096	1	12/01/16 09:12	12/01/16 17:08	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0073	0.00019	1	12/01/16 09:12	12/01/16 17:08	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0073	0.00012	1	12/01/16 09:12	12/01/16 17:08	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0073	0.00016	1	12/01/16 09:12	12/01/16 17:08	75-71-8	
Ethylbenzene	<0.000077	mg/kg	0.0073	0.000077	1	12/01/16 09:12	12/01/16 17:08	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0073	0.00022	1	12/01/16 09:12	12/01/16 17:08	87-68-3	
Methyl-tert-butyl ether	<0.000084	mg/kg	0.0073	0.000084	1	12/01/16 09:12	12/01/16 17:08	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0073	0.00016	1	12/01/16 09:12	12/01/16 17:08	75-09-2	
Naphthalene	<0.00013	mg/kg	0.0073	0.00013	1	12/01/16 09:12	12/01/16 17:08	91-20-3	
Styrene	<0.00013	mg/kg	0.0073	0.00013	1	12/01/16 09:12	12/01/16 17:08	100-42-5	
Tetrachloroethene	<0.000085	mg/kg	0.0073	0.000085	1	12/01/16 09:12	12/01/16 17:08	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.15	0.0019	1	12/01/16 09:12	12/01/16 17:08	109-99-9	
Toluene	<0.00013	mg/kg	0.0073	0.00013	1	12/01/16 09:12	12/01/16 17:08	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0073	0.00021	1	12/01/16 09:12	12/01/16 17:08	79-01-6	
Trichlorofluoromethane	<0.00023	mg/kg	0.0073	0.00023	1	12/01/16 09:12	12/01/16 17:08	75-69-4	
Vinyl chloride	<0.00022	mg/kg	0.0073	0.00022	1	12/01/16 09:12	12/01/16 17:08	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0073	0.00018	1	12/01/16 09:12	12/01/16 17:08	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0073	0.00017	1	12/01/16 09:12	12/01/16 17:08	10061-01-5	
m&p-Xylene	<0.0036	mg/kg	0.0073	0.0036	1	12/01/16 09:12	12/01/16 17:08	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0073	0.00012	1	12/01/16 09:12	12/01/16 17:08	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB27-SS-19 **Lab ID: 1279470017** Collected: 11/20/16 08:48 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0073	0.00019	1	12/01/16 09:12	12/01/16 17:08	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0073	0.00017	1	12/01/16 09:12	12/01/16 17:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	70-130		1	12/01/16 09:12	12/01/16 17:08	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 17:08	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1	12/01/16 09:12	12/01/16 17:08	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	32.3	%	0.10	0.10	1		11/28/16 18:46		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB28-SS-5** Lab ID: **1279470018** Collected: 11/20/16 09:54 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 17:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0058	0.0029	1	12/01/16 09:12	12/01/16 17:28	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 17:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0058	0.00016	1	12/01/16 09:12	12/01/16 17:28	76-13-1	
1,1-Dichloroethane	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 17:28	75-34-3	
1,1-Dichloroethene	<0.00015	mg/kg	0.0058	0.00015	1	12/01/16 09:12	12/01/16 17:28	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0058	0.00014	1	12/01/16 09:12	12/01/16 17:28	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0058	0.00012	1	12/01/16 09:12	12/01/16 17:28	95-63-6	
1,2-Dibromoethane (EDB)	<0.000084	mg/kg	0.0058	0.000084	1	12/01/16 09:12	12/01/16 17:28	106-93-4	
1,2-Dichlorobenzene	<0.000082	mg/kg	0.0058	0.000082	1	12/01/16 09:12	12/01/16 17:28	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0058	0.0029	1	12/01/16 09:12	12/01/16 17:28	107-06-2	
1,3,5-Trimethylbenzene	<0.000097	mg/kg	0.0058	0.000097	1	12/01/16 09:12	12/01/16 17:28	108-67-8	
1,3-Dichlorobenzene	<0.000060	mg/kg	0.0058	0.000060	1	12/01/16 09:12	12/01/16 17:28	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 17:28	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.058	0.0027	1	12/01/16 09:12	12/01/16 17:28	78-93-3	
2-Hexanone	<0.00058	mg/kg	0.058	0.00058	1	12/01/16 09:12	12/01/16 17:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00045	mg/kg	0.058	0.00045	1	12/01/16 09:12	12/01/16 17:28	108-10-1	
Acetone	0.0042J	mg/kg	0.058	0.00064	1	12/01/16 09:12	12/01/16 17:28	67-64-1	
Benzene	<0.000087	mg/kg	0.0058	0.000087	1	12/01/16 09:12	12/01/16 17:28	71-43-2	
Bromodichloromethane	<0.00014	mg/kg	0.0058	0.00014	1	12/01/16 09:12	12/01/16 17:28	75-27-4	
Bromoform	<0.00024	mg/kg	0.0058	0.00024	1	12/01/16 09:12	12/01/16 17:28	75-25-2	
Bromomethane	<0.00019	mg/kg	0.023	0.00019	1	12/01/16 09:12	12/01/16 17:28	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0058	0.00020	1	12/01/16 09:12	12/01/16 17:28	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0058	0.00012	1	12/01/16 09:12	12/01/16 17:28	108-90-7	
Chloroethane	<0.00023	mg/kg	0.0058	0.00023	1	12/01/16 09:12	12/01/16 17:28	75-00-3	
Chloroform	<0.000076	mg/kg	0.0058	0.000076	1	12/01/16 09:12	12/01/16 17:28	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0058	0.00015	1	12/01/16 09:12	12/01/16 17:28	74-87-3	
Dibromochloromethane	<0.000094	mg/kg	0.0058	0.000094	1	12/01/16 09:12	12/01/16 17:28	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 17:28	75-71-8	
Ethylbenzene	<0.000061	mg/kg	0.0058	0.000061	1	12/01/16 09:12	12/01/16 17:28	100-41-4	
Hexachloro-1,3-butadiene	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 17:28	87-68-3	
Methyl-tert-butyl ether	<0.000067	mg/kg	0.0058	0.000067	1	12/01/16 09:12	12/01/16 17:28	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 17:28	75-09-2	
Naphthalene	<0.00010	mg/kg	0.0058	0.00010	1	12/01/16 09:12	12/01/16 17:28	91-20-3	
Styrene	<0.00010	mg/kg	0.0058	0.00010	1	12/01/16 09:12	12/01/16 17:28	100-42-5	
Tetrachloroethene	<0.000068	mg/kg	0.0058	0.000068	1	12/01/16 09:12	12/01/16 17:28	127-18-4	
Tetrahydrofuran	<0.0015	mg/kg	0.12	0.0015	1	12/01/16 09:12	12/01/16 17:28	109-99-9	
Toluene	<0.00011	mg/kg	0.0058	0.00011	1	12/01/16 09:12	12/01/16 17:28	108-88-3	
Trichloroethene	<0.00016	mg/kg	0.0058	0.00016	1	12/01/16 09:12	12/01/16 17:28	79-01-6	
Trichlorofluoromethane	<0.00018	mg/kg	0.0058	0.00018	1	12/01/16 09:12	12/01/16 17:28	75-69-4	
Vinyl chloride	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 17:28	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0058	0.00014	1	12/01/16 09:12	12/01/16 17:28	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 17:28	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0058	0.0029	1	12/01/16 09:12	12/01/16 17:28	179601-23-1	
o-Xylene	<0.000092	mg/kg	0.0058	0.000092	1	12/01/16 09:12	12/01/16 17:28	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB28-SS-5 **Lab ID: 1279470018** Collected: 11/20/16 09:54 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00015	mg/kg	0.0058	0.00015	1	12/01/16 09:12	12/01/16 17:28	156-60-5	
trans-1,3-Dichloropropene	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 17:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	12/01/16 09:12	12/01/16 17:28	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 17:28	2037-26-5	
4-Bromofluorobenzene (S)	86	%	70-130		1	12/01/16 09:12	12/01/16 17:28	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	13.3	%	0.10	0.10	1		11/28/16 18:46		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB28-SS-10** Lab ID: **1279470019** Collected: 11/20/16 10:08 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 17:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0059	0.0029	1	12/01/16 09:12	12/01/16 17:48	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0059	0.00017	1	12/01/16 09:12	12/01/16 17:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0059	0.00016	1	12/01/16 09:12	12/01/16 17:48	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 17:48	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/01/16 09:12	12/01/16 17:48	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 17:48	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/01/16 09:12	12/01/16 17:48	95-63-6	
1,2-Dibromoethane (EDB)	<0.000086	mg/kg	0.0059	0.000086	1	12/01/16 09:12	12/01/16 17:48	106-93-4	
1,2-Dichlorobenzene	<0.000084	mg/kg	0.0059	0.000084	1	12/01/16 09:12	12/01/16 17:48	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0059	0.0029	1	12/01/16 09:12	12/01/16 17:48	107-06-2	
1,3,5-Trimethylbenzene	<0.000099	mg/kg	0.0059	0.000099	1	12/01/16 09:12	12/01/16 17:48	108-67-8	
1,3-Dichlorobenzene	<0.000062	mg/kg	0.0059	0.000062	1	12/01/16 09:12	12/01/16 17:48	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0059	0.00017	1	12/01/16 09:12	12/01/16 17:48	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.059	0.0027	1	12/01/16 09:12	12/01/16 17:48	78-93-3	
2-Hexanone	<0.00059	mg/kg	0.059	0.00059	1	12/01/16 09:12	12/01/16 17:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00046	mg/kg	0.059	0.00046	1	12/01/16 09:12	12/01/16 17:48	108-10-1	
Acetone	0.0028J	mg/kg	0.059	0.00065	1	12/01/16 09:12	12/01/16 17:48	67-64-1	
Benzene	<0.000089	mg/kg	0.0059	0.000089	1	12/01/16 09:12	12/01/16 17:48	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/01/16 09:12	12/01/16 17:48	75-27-4	
Bromoform	<0.00025	mg/kg	0.0059	0.00025	1	12/01/16 09:12	12/01/16 17:48	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	12/01/16 09:12	12/01/16 17:48	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0059	0.00020	1	12/01/16 09:12	12/01/16 17:48	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/01/16 09:12	12/01/16 17:48	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0059	0.00024	1	12/01/16 09:12	12/01/16 17:48	75-00-3	
Chloroform	<0.000078	mg/kg	0.0059	0.000078	1	12/01/16 09:12	12/01/16 17:48	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/01/16 09:12	12/01/16 17:48	74-87-3	
Dibromochloromethane	<0.000096	mg/kg	0.0059	0.000096	1	12/01/16 09:12	12/01/16 17:48	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 17:48	75-71-8	
Ethylbenzene	<0.000062	mg/kg	0.0059	0.000062	1	12/01/16 09:12	12/01/16 17:48	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0059	0.00018	1	12/01/16 09:12	12/01/16 17:48	87-68-3	
Methyl-tert-butyl ether	<0.000068	mg/kg	0.0059	0.000068	1	12/01/16 09:12	12/01/16 17:48	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 17:48	75-09-2	
Naphthalene	<0.00010	mg/kg	0.0059	0.00010	1	12/01/16 09:12	12/01/16 17:48	91-20-3	
Styrene	<0.00010	mg/kg	0.0059	0.00010	1	12/01/16 09:12	12/01/16 17:48	100-42-5	
Tetrachloroethene	<0.000069	mg/kg	0.0059	0.000069	1	12/01/16 09:12	12/01/16 17:48	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/01/16 09:12	12/01/16 17:48	109-99-9	
Toluene	<0.00011	mg/kg	0.0059	0.00011	1	12/01/16 09:12	12/01/16 17:48	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0059	0.00017	1	12/01/16 09:12	12/01/16 17:48	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0059	0.00019	1	12/01/16 09:12	12/01/16 17:48	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0059	0.00018	1	12/01/16 09:12	12/01/16 17:48	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 17:48	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 17:48	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0059	0.0029	1	12/01/16 09:12	12/01/16 17:48	179601-23-1	
o-Xylene	<0.000094	mg/kg	0.0059	0.000094	1	12/01/16 09:12	12/01/16 17:48	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB28-SS-10 **Lab ID: 1279470019** Collected: 11/20/16 10:08 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/01/16 09:12	12/01/16 17:48	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 17:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/01/16 09:12	12/01/16 17:48	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 17:48	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1	12/01/16 09:12	12/01/16 17:48	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	16.4	%	0.10	0.10	1		11/28/16 18:46		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB28-SS-15** Lab ID: **1279470020** Collected: 11/20/16 10:34 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0072	0.00016	1	12/01/16 09:12	12/01/16 18:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0036	mg/kg	0.0072	0.0036	1	12/01/16 09:12	12/01/16 18:08	79-34-5	
1,1,2-Trichloroethane	<0.00021	mg/kg	0.0072	0.00021	1	12/01/16 09:12	12/01/16 18:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0072	0.00020	1	12/01/16 09:12	12/01/16 18:08	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0072	0.00017	1	12/01/16 09:12	12/01/16 18:08	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0072	0.00019	1	12/01/16 09:12	12/01/16 18:08	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0072	0.00017	1	12/01/16 09:12	12/01/16 18:08	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0072	0.00015	1	12/01/16 09:12	12/01/16 18:08	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0072	0.00011	1	12/01/16 09:12	12/01/16 18:08	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0072	0.00010	1	12/01/16 09:12	12/01/16 18:08	95-50-1	
1,2-Dichloroethane	<0.0036	mg/kg	0.0072	0.0036	1	12/01/16 09:12	12/01/16 18:08	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0072	0.00012	1	12/01/16 09:12	12/01/16 18:08	108-67-8	
1,3-Dichlorobenzene	<0.000075	mg/kg	0.0072	0.000075	1	12/01/16 09:12	12/01/16 18:08	541-73-1	
1,4-Dichlorobenzene	<0.00021	mg/kg	0.0072	0.00021	1	12/01/16 09:12	12/01/16 18:08	106-46-7	
2-Butanone (MEK)	<0.0033	mg/kg	0.072	0.0033	1	12/01/16 09:12	12/01/16 18:08	78-93-3	
2-Hexanone	<0.00072	mg/kg	0.072	0.00072	1	12/01/16 09:12	12/01/16 18:08	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00056	mg/kg	0.072	0.00056	1	12/01/16 09:12	12/01/16 18:08	108-10-1	
Acetone	0.0056J	mg/kg	0.072	0.00080	1	12/01/16 09:12	12/01/16 18:08	67-64-1	
Benzene	<0.00011	mg/kg	0.0072	0.00011	1	12/01/16 09:12	12/01/16 18:08	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0072	0.00018	1	12/01/16 09:12	12/01/16 18:08	75-27-4	
Bromoform	<0.00030	mg/kg	0.0072	0.00030	1	12/01/16 09:12	12/01/16 18:08	75-25-2	
Bromomethane	<0.00024	mg/kg	0.029	0.00024	1	12/01/16 09:12	12/01/16 18:08	74-83-9	
Carbon tetrachloride	<0.00025	mg/kg	0.0072	0.00025	1	12/01/16 09:12	12/01/16 18:08	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0072	0.00014	1	12/01/16 09:12	12/01/16 18:08	108-90-7	
Chloroethane	<0.00029	mg/kg	0.0072	0.00029	1	12/01/16 09:12	12/01/16 18:08	75-00-3	
Chloroform	<0.000095	mg/kg	0.0072	0.000095	1	12/01/16 09:12	12/01/16 18:08	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0072	0.00019	1	12/01/16 09:12	12/01/16 18:08	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0072	0.00012	1	12/01/16 09:12	12/01/16 18:08	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0072	0.00016	1	12/01/16 09:12	12/01/16 18:08	75-71-8	
Ethylbenzene	<0.000076	mg/kg	0.0072	0.000076	1	12/01/16 09:12	12/01/16 18:08	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0072	0.00021	1	12/01/16 09:12	12/01/16 18:08	87-68-3	
Methyl-tert-butyl ether	<0.000083	mg/kg	0.0072	0.000083	1	12/01/16 09:12	12/01/16 18:08	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0072	0.00016	1	12/01/16 09:12	12/01/16 18:08	75-09-2	
Naphthalene	<0.00013	mg/kg	0.0072	0.00013	1	12/01/16 09:12	12/01/16 18:08	91-20-3	
Styrene	<0.00012	mg/kg	0.0072	0.00012	1	12/01/16 09:12	12/01/16 18:08	100-42-5	
Tetrachloroethene	<0.000084	mg/kg	0.0072	0.000084	1	12/01/16 09:12	12/01/16 18:08	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.14	0.0019	1	12/01/16 09:12	12/01/16 18:08	109-99-9	
Toluene	<0.00013	mg/kg	0.0072	0.00013	1	12/01/16 09:12	12/01/16 18:08	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0072	0.00020	1	12/01/16 09:12	12/01/16 18:08	79-01-6	
Trichlorofluoromethane	<0.00023	mg/kg	0.0072	0.00023	1	12/01/16 09:12	12/01/16 18:08	75-69-4	
Vinyl chloride	<0.00022	mg/kg	0.0072	0.00022	1	12/01/16 09:12	12/01/16 18:08	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0072	0.00017	1	12/01/16 09:12	12/01/16 18:08	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0072	0.00016	1	12/01/16 09:12	12/01/16 18:08	10061-01-5	
m&p-Xylene	<0.0036	mg/kg	0.0072	0.0036	1	12/01/16 09:12	12/01/16 18:08	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0072	0.00011	1	12/01/16 09:12	12/01/16 18:08	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB28-SS-15 **Lab ID: 1279470020** Collected: 11/20/16 10:34 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0072	0.00019	1	12/01/16 09:12	12/01/16 18:08	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0072	0.00017	1	12/01/16 09:12	12/01/16 18:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1	12/01/16 09:12	12/01/16 18:08	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 18:08	2037-26-5	
4-Bromofluorobenzene (S)	85	%	70-130		1	12/01/16 09:12	12/01/16 18:08	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	32.0	%	0.10	0.10	1		11/28/16 18:46		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB28-SS-19** Lab ID: **1279470021** Collected: 11/20/16 11:13 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 18:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 18:28	79-34-5	
1,1,2-Trichloroethane	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 18:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 18:28	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 18:28	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 18:28	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 18:28	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0075	0.00016	1	12/01/16 09:12	12/01/16 18:28	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 18:28	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 18:28	95-50-1	
1,2-Dichloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 18:28	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 18:28	108-67-8	
1,3-Dichlorobenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 18:28	541-73-1	
1,4-Dichlorobenzene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 18:28	106-46-7	
2-Butanone (MEK)	<0.0035	mg/kg	0.075	0.0035	1	12/01/16 09:12	12/01/16 18:28	78-93-3	
2-Hexanone	<0.00076	mg/kg	0.075	0.00076	1	12/01/16 09:12	12/01/16 18:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00058	mg/kg	0.075	0.00058	1	12/01/16 09:12	12/01/16 18:28	108-10-1	
Acetone	0.0080J	mg/kg	0.075	0.00083	1	12/01/16 09:12	12/01/16 18:28	67-64-1	
Benzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 18:28	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 18:28	75-27-4	
Bromoform	<0.00032	mg/kg	0.0075	0.00032	1	12/01/16 09:12	12/01/16 18:28	75-25-2	
Bromomethane	<0.00025	mg/kg	0.030	0.00025	1	12/01/16 09:12	12/01/16 18:28	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0075	0.00026	1	12/01/16 09:12	12/01/16 18:28	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0075	0.00015	1	12/01/16 09:12	12/01/16 18:28	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0075	0.00030	1	12/01/16 09:12	12/01/16 18:28	75-00-3	
Chloroform	<0.000099	mg/kg	0.0075	0.000099	1	12/01/16 09:12	12/01/16 18:28	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 18:28	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 18:28	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 18:28	75-71-8	
Ethylbenzene	<0.000080	mg/kg	0.0075	0.000080	1	12/01/16 09:12	12/01/16 18:28	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 18:28	87-68-3	
Methyl-tert-butyl ether	<0.000087	mg/kg	0.0075	0.000087	1	12/01/16 09:12	12/01/16 18:28	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 18:28	75-09-2	
Naphthalene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 18:28	91-20-3	
Styrene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 18:28	100-42-5	
Tetrachloroethene	<0.000088	mg/kg	0.0075	0.000088	1	12/01/16 09:12	12/01/16 18:28	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 18:28	109-99-9	
Toluene	<0.00014	mg/kg	0.0075	0.00014	1	12/01/16 09:12	12/01/16 18:28	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 18:28	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0075	0.00024	1	12/01/16 09:12	12/01/16 18:28	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0075	0.00023	1	12/01/16 09:12	12/01/16 18:28	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 18:28	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 18:28	10061-01-5	
m&p-Xylene	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 18:28	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 18:28	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB28-SS-19 **Lab ID: 1279470021** Collected: 11/20/16 11:13 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 18:28	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 18:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/01/16 09:12	12/01/16 18:28	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 18:28	2037-26-5	
4-Bromofluorobenzene (S)	85	%	70-130		1	12/01/16 09:12	12/01/16 18:28	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	34.1	%	0.10	0.10	1		11/30/16 08:32		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB29-SS-5** Lab ID: **1279470022** Collected: 11/20/16 13:10 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 18:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0030	mg/kg	0.0059	0.0030	1	12/01/16 09:12	12/01/16 18:48	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0059	0.00017	1	12/01/16 09:12	12/01/16 18:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0059	0.00016	1	12/01/16 09:12	12/01/16 18:48	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 18:48	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/01/16 09:12	12/01/16 18:48	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 18:48	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/01/16 09:12	12/01/16 18:48	95-63-6	
1,2-Dibromoethane (EDB)	<0.000087	mg/kg	0.0059	0.000087	1	12/01/16 09:12	12/01/16 18:48	106-93-4	
1,2-Dichlorobenzene	<0.000084	mg/kg	0.0059	0.000084	1	12/01/16 09:12	12/01/16 18:48	95-50-1	
1,2-Dichloroethane	<0.0030	mg/kg	0.0059	0.0030	1	12/01/16 09:12	12/01/16 18:48	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0059	0.00010	1	12/01/16 09:12	12/01/16 18:48	108-67-8	
1,3-Dichlorobenzene	<0.000062	mg/kg	0.0059	0.000062	1	12/01/16 09:12	12/01/16 18:48	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0059	0.00017	1	12/01/16 09:12	12/01/16 18:48	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.059	0.0027	1	12/01/16 09:12	12/01/16 18:48	78-93-3	
2-Hexanone	<0.00060	mg/kg	0.059	0.00060	1	12/01/16 09:12	12/01/16 18:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00046	mg/kg	0.059	0.00046	1	12/01/16 09:12	12/01/16 18:48	108-10-1	
Acetone	0.0060J	mg/kg	0.059	0.00066	1	12/01/16 09:12	12/01/16 18:48	67-64-1	
Benzene	<0.000090	mg/kg	0.0059	0.000090	1	12/01/16 09:12	12/01/16 18:48	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/01/16 09:12	12/01/16 18:48	75-27-4	
Bromoform	<0.00025	mg/kg	0.0059	0.00025	1	12/01/16 09:12	12/01/16 18:48	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	12/01/16 09:12	12/01/16 18:48	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0059	0.00020	1	12/01/16 09:12	12/01/16 18:48	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/01/16 09:12	12/01/16 18:48	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0059	0.00024	1	12/01/16 09:12	12/01/16 18:48	75-00-3	
Chloroform	<0.000078	mg/kg	0.0059	0.000078	1	12/01/16 09:12	12/01/16 18:48	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/01/16 09:12	12/01/16 18:48	74-87-3	
Dibromochloromethane	<0.000096	mg/kg	0.0059	0.000096	1	12/01/16 09:12	12/01/16 18:48	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 18:48	75-71-8	
Ethylbenzene	<0.000063	mg/kg	0.0059	0.000063	1	12/01/16 09:12	12/01/16 18:48	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0059	0.00018	1	12/01/16 09:12	12/01/16 18:48	87-68-3	
Methyl-tert-butyl ether	<0.000068	mg/kg	0.0059	0.000068	1	12/01/16 09:12	12/01/16 18:48	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 18:48	75-09-2	
Naphthalene	<0.00010	mg/kg	0.0059	0.00010	1	12/01/16 09:12	12/01/16 18:48	91-20-3	
Styrene	<0.00010	mg/kg	0.0059	0.00010	1	12/01/16 09:12	12/01/16 18:48	100-42-5	
Tetrachloroethene	<0.000069	mg/kg	0.0059	0.000069	1	12/01/16 09:12	12/01/16 18:48	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/01/16 09:12	12/01/16 18:48	109-99-9	
Toluene	<0.00011	mg/kg	0.0059	0.00011	1	12/01/16 09:12	12/01/16 18:48	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0059	0.00017	1	12/01/16 09:12	12/01/16 18:48	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0059	0.00019	1	12/01/16 09:12	12/01/16 18:48	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0059	0.00018	1	12/01/16 09:12	12/01/16 18:48	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 18:48	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0059	0.00013	1	12/01/16 09:12	12/01/16 18:48	10061-01-5	
m&p-Xylene	<0.0030	mg/kg	0.0059	0.0030	1	12/01/16 09:12	12/01/16 18:48	179601-23-1	
o-Xylene	<0.000095	mg/kg	0.0059	0.000095	1	12/01/16 09:12	12/01/16 18:48	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB29-SS-5 **Lab ID: 1279470022** Collected: 11/20/16 13:10 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/01/16 09:12	12/01/16 18:48	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0059	0.00014	1	12/01/16 09:12	12/01/16 18:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	70-130		1	12/01/16 09:12	12/01/16 18:48	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/01/16 09:12	12/01/16 18:48	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1	12/01/16 09:12	12/01/16 18:48	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	17.8	%	0.10	0.10	1		11/30/16 08:32		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB29-SS-10** Lab ID: **1279470023** Collected: 11/20/16 13:20 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0057	0.00013	1	12/01/16 09:12	12/01/16 19:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0057	0.0029	1	12/01/16 09:12	12/01/16 19:08	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0057	0.00017	1	12/01/16 09:12	12/01/16 19:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0057	0.00016	1	12/01/16 09:12	12/01/16 19:08	76-13-1	
1,1-Dichloroethane	<0.00013	mg/kg	0.0057	0.00013	1	12/01/16 09:12	12/01/16 19:08	75-34-3	
1,1-Dichloroethene	<0.00015	mg/kg	0.0057	0.00015	1	12/01/16 09:12	12/01/16 19:08	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0057	0.00014	1	12/01/16 09:12	12/01/16 19:08	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0057	0.00012	1	12/01/16 09:12	12/01/16 19:08	95-63-6	
1,2-Dibromoethane (EDB)	<0.000084	mg/kg	0.0057	0.000084	1	12/01/16 09:12	12/01/16 19:08	106-93-4	
1,2-Dichlorobenzene	<0.000082	mg/kg	0.0057	0.000082	1	12/01/16 09:12	12/01/16 19:08	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0057	0.0029	1	12/01/16 09:12	12/01/16 19:08	107-06-2	
1,3,5-Trimethylbenzene	<0.000097	mg/kg	0.0057	0.000097	1	12/01/16 09:12	12/01/16 19:08	108-67-8	
1,3-Dichlorobenzene	<0.000060	mg/kg	0.0057	0.000060	1	12/01/16 09:12	12/01/16 19:08	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0057	0.00017	1	12/01/16 09:12	12/01/16 19:08	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.057	0.0027	1	12/01/16 09:12	12/01/16 19:08	78-93-3	
2-Hexanone	<0.00058	mg/kg	0.057	0.00058	1	12/01/16 09:12	12/01/16 19:08	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00045	mg/kg	0.057	0.00045	1	12/01/16 09:12	12/01/16 19:08	108-10-1	
Acetone	0.0034J	mg/kg	0.057	0.00064	1	12/01/16 09:12	12/01/16 19:08	67-64-1	
Benzene	<0.000087	mg/kg	0.0057	0.000087	1	12/01/16 09:12	12/01/16 19:08	71-43-2	
Bromodichloromethane	<0.00014	mg/kg	0.0057	0.00014	1	12/01/16 09:12	12/01/16 19:08	75-27-4	
Bromoform	<0.00024	mg/kg	0.0057	0.00024	1	12/01/16 09:12	12/01/16 19:08	75-25-2	
Bromomethane	<0.00019	mg/kg	0.023	0.00019	1	12/01/16 09:12	12/01/16 19:08	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0057	0.00020	1	12/01/16 09:12	12/01/16 19:08	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0057	0.00012	1	12/01/16 09:12	12/01/16 19:08	108-90-7	
Chloroethane	<0.00023	mg/kg	0.0057	0.00023	1	12/01/16 09:12	12/01/16 19:08	75-00-3	
Chloroform	<0.000076	mg/kg	0.0057	0.000076	1	12/01/16 09:12	12/01/16 19:08	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0057	0.00015	1	12/01/16 09:12	12/01/16 19:08	74-87-3	
Dibromochloromethane	<0.000093	mg/kg	0.0057	0.000093	1	12/01/16 09:12	12/01/16 19:08	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0057	0.00013	1	12/01/16 09:12	12/01/16 19:08	75-71-8	
Ethylbenzene	<0.000061	mg/kg	0.0057	0.000061	1	12/01/16 09:12	12/01/16 19:08	100-41-4	
Hexachloro-1,3-butadiene	<0.00017	mg/kg	0.0057	0.00017	1	12/01/16 09:12	12/01/16 19:08	87-68-3	
Methyl-tert-butyl ether	<0.000066	mg/kg	0.0057	0.000066	1	12/01/16 09:12	12/01/16 19:08	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0057	0.00013	1	12/01/16 09:12	12/01/16 19:08	75-09-2	
Naphthalene	<0.00010	mg/kg	0.0057	0.00010	1	12/01/16 09:12	12/01/16 19:08	91-20-3	
Styrene	<0.00010	mg/kg	0.0057	0.00010	1	12/01/16 09:12	12/01/16 19:08	100-42-5	
Tetrachloroethene	<0.000067	mg/kg	0.0057	0.000067	1	12/01/16 09:12	12/01/16 19:08	127-18-4	
Tetrahydrofuran	<0.0015	mg/kg	0.11	0.0015	1	12/01/16 09:12	12/01/16 19:08	109-99-9	
Toluene	<0.00010	mg/kg	0.0057	0.00010	1	12/01/16 09:12	12/01/16 19:08	108-88-3	
Trichloroethene	<0.00016	mg/kg	0.0057	0.00016	1	12/01/16 09:12	12/01/16 19:08	79-01-6	
Trichlorofluoromethane	<0.00018	mg/kg	0.0057	0.00018	1	12/01/16 09:12	12/01/16 19:08	75-69-4	
Vinyl chloride	<0.00017	mg/kg	0.0057	0.00017	1	12/01/16 09:12	12/01/16 19:08	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0057	0.00014	1	12/01/16 09:12	12/01/16 19:08	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0057	0.00013	1	12/01/16 09:12	12/01/16 19:08	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0057	0.0029	1	12/01/16 09:12	12/01/16 19:08	179601-23-1	
o-Xylene	<0.000092	mg/kg	0.0057	0.000092	1	12/01/16 09:12	12/01/16 19:08	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman
Pace Project No.: 1279470

Sample: SB29-SS-10 **Lab ID: 1279470023** Collected: 11/20/16 13:20 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00015	mg/kg	0.0057	0.00015	1	12/01/16 09:12	12/01/16 19:08	156-60-5	
trans-1,3-Dichloropropene	<0.00013	mg/kg	0.0057	0.00013	1	12/01/16 09:12	12/01/16 19:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	70-130		1	12/01/16 09:12	12/01/16 19:08	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 19:08	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1	12/01/16 09:12	12/01/16 19:08	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	16.8	%	0.10	0.10	1		11/30/16 08:32		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB29-SS-13** Lab ID: **1279470024** Collected: 11/20/16 13:30 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 19:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 19:28	79-34-5	
1,1,2-Trichloroethane	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 19:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 19:28	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 19:28	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 19:28	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 19:28	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0075	0.00016	1	12/01/16 09:12	12/01/16 19:28	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 19:28	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 19:28	95-50-1	
1,2-Dichloroethane	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 19:28	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 19:28	108-67-8	
1,3-Dichlorobenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 19:28	541-73-1	
1,4-Dichlorobenzene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 19:28	106-46-7	
2-Butanone (MEK)	<0.0035	mg/kg	0.075	0.0035	1	12/01/16 09:12	12/01/16 19:28	78-93-3	
2-Hexanone	<0.00076	mg/kg	0.075	0.00076	1	12/01/16 09:12	12/01/16 19:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00058	mg/kg	0.075	0.00058	1	12/01/16 09:12	12/01/16 19:28	108-10-1	
Acetone	0.0054J	mg/kg	0.075	0.00083	1	12/01/16 09:12	12/01/16 19:28	67-64-1	
Benzene	<0.00011	mg/kg	0.0075	0.00011	1	12/01/16 09:12	12/01/16 19:28	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 19:28	75-27-4	
Bromoform	<0.00032	mg/kg	0.0075	0.00032	1	12/01/16 09:12	12/01/16 19:28	75-25-2	
Bromomethane	<0.00025	mg/kg	0.030	0.00025	1	12/01/16 09:12	12/01/16 19:28	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0075	0.00026	1	12/01/16 09:12	12/01/16 19:28	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0075	0.00015	1	12/01/16 09:12	12/01/16 19:28	108-90-7	
Chloroethane	<0.00030	mg/kg	0.0075	0.00030	1	12/01/16 09:12	12/01/16 19:28	75-00-3	
Chloroform	<0.000099	mg/kg	0.0075	0.000099	1	12/01/16 09:12	12/01/16 19:28	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0075	0.00019	1	12/01/16 09:12	12/01/16 19:28	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 19:28	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 19:28	75-71-8	
Ethylbenzene	<0.000079	mg/kg	0.0075	0.000079	1	12/01/16 09:12	12/01/16 19:28	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0075	0.00022	1	12/01/16 09:12	12/01/16 19:28	87-68-3	
Methyl-tert-butyl ether	<0.000086	mg/kg	0.0075	0.000086	1	12/01/16 09:12	12/01/16 19:28	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 19:28	75-09-2	
Naphthalene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 19:28	91-20-3	
Styrene	<0.00013	mg/kg	0.0075	0.00013	1	12/01/16 09:12	12/01/16 19:28	100-42-5	
Tetrachloroethene	<0.000088	mg/kg	0.0075	0.000088	1	12/01/16 09:12	12/01/16 19:28	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/01/16 09:12	12/01/16 19:28	109-99-9	
Toluene	<0.00014	mg/kg	0.0075	0.00014	1	12/01/16 09:12	12/01/16 19:28	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0075	0.00021	1	12/01/16 09:12	12/01/16 19:28	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0075	0.00024	1	12/01/16 09:12	12/01/16 19:28	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0075	0.00023	1	12/01/16 09:12	12/01/16 19:28	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0075	0.00018	1	12/01/16 09:12	12/01/16 19:28	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 19:28	10061-01-5	
m&p-Xylene	<0.0037	mg/kg	0.0075	0.0037	1	12/01/16 09:12	12/01/16 19:28	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0075	0.00012	1	12/01/16 09:12	12/01/16 19:28	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB29-SS-13 **Lab ID: 1279470024** Collected: 11/20/16 13:30 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0075	0.00020	1	12/01/16 09:12	12/01/16 19:28	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0075	0.00017	1	12/01/16 09:12	12/01/16 19:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	70-130		1	12/01/16 09:12	12/01/16 19:28	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 19:28	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1	12/01/16 09:12	12/01/16 19:28	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	33.2	%	0.10	0.10	1		11/30/16 08:32		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB30-SS-5** Lab ID: **1279470025** Collected: 11/20/16 14:12 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0062	0.00014	1	12/01/16 09:12	12/01/16 19:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0031	mg/kg	0.0062	0.0031	1	12/01/16 09:12	12/01/16 19:48	79-34-5	
1,1,2-Trichloroethane	<0.00018	mg/kg	0.0062	0.00018	1	12/01/16 09:12	12/01/16 19:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00017	mg/kg	0.0062	0.00017	1	12/01/16 09:12	12/01/16 19:48	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0062	0.00014	1	12/01/16 09:12	12/01/16 19:48	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0062	0.00016	1	12/01/16 09:12	12/01/16 19:48	75-35-4	
1,2,4-Trichlorobenzene	<0.00015	mg/kg	0.0062	0.00015	1	12/01/16 09:12	12/01/16 19:48	120-82-1	
1,2,4-Trimethylbenzene	<0.00013	mg/kg	0.0062	0.00013	1	12/01/16 09:12	12/01/16 19:48	95-63-6	
1,2-Dibromoethane (EDB)	<0.000090	mg/kg	0.0062	0.000090	1	12/01/16 09:12	12/01/16 19:48	106-93-4	
1,2-Dichlorobenzene	<0.000088	mg/kg	0.0062	0.000088	1	12/01/16 09:12	12/01/16 19:48	95-50-1	
1,2-Dichloroethane	<0.0031	mg/kg	0.0062	0.0031	1	12/01/16 09:12	12/01/16 19:48	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0062	0.00010	1	12/01/16 09:12	12/01/16 19:48	108-67-8	
1,3-Dichlorobenzene	<0.000065	mg/kg	0.0062	0.000065	1	12/01/16 09:12	12/01/16 19:48	541-73-1	
1,4-Dichlorobenzene	<0.00018	mg/kg	0.0062	0.00018	1	12/01/16 09:12	12/01/16 19:48	106-46-7	
2-Butanone (MEK)	0.0088J	mg/kg	0.062	0.0029	1	12/01/16 09:12	12/01/16 19:48	78-93-3	
2-Hexanone	<0.00062	mg/kg	0.062	0.00062	1	12/01/16 09:12	12/01/16 19:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00048	mg/kg	0.062	0.00048	1	12/01/16 09:12	12/01/16 19:48	108-10-1	
Acetone	0.077	mg/kg	0.062	0.00068	1	12/01/16 09:12	12/01/16 19:48	67-64-1	
Benzene	<0.000093	mg/kg	0.0062	0.000093	1	12/01/16 09:12	12/01/16 19:48	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0062	0.00015	1	12/01/16 09:12	12/01/16 19:48	75-27-4	
Bromoform	<0.00026	mg/kg	0.0062	0.00026	1	12/01/16 09:12	12/01/16 19:48	75-25-2	
Bromomethane	<0.00021	mg/kg	0.025	0.00021	1	12/01/16 09:12	12/01/16 19:48	74-83-9	
Carbon tetrachloride	<0.00021	mg/kg	0.0062	0.00021	1	12/01/16 09:12	12/01/16 19:48	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0062	0.00012	1	12/01/16 09:12	12/01/16 19:48	108-90-7	
Chloroethane	<0.00025	mg/kg	0.0062	0.00025	1	12/01/16 09:12	12/01/16 19:48	75-00-3	
Chloroform	<0.000081	mg/kg	0.0062	0.000081	1	12/01/16 09:12	12/01/16 19:48	67-66-3	
Chloromethane	<0.00016	mg/kg	0.0062	0.00016	1	12/01/16 09:12	12/01/16 19:48	74-87-3	
Dibromochloromethane	<0.00010	mg/kg	0.0062	0.00010	1	12/01/16 09:12	12/01/16 19:48	124-48-1	
Dichlorodifluoromethane	<0.00014	mg/kg	0.0062	0.00014	1	12/01/16 09:12	12/01/16 19:48	75-71-8	
Ethylbenzene	<0.000065	mg/kg	0.0062	0.000065	1	12/01/16 09:12	12/01/16 19:48	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0062	0.00018	1	12/01/16 09:12	12/01/16 19:48	87-68-3	
Methyl-tert-butyl ether	<0.000071	mg/kg	0.0062	0.000071	1	12/01/16 09:12	12/01/16 19:48	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0062	0.00014	1	12/01/16 09:12	12/01/16 19:48	75-09-2	
Naphthalene	<0.00011	mg/kg	0.0062	0.00011	1	12/01/16 09:12	12/01/16 19:48	91-20-3	
Styrene	<0.00011	mg/kg	0.0062	0.00011	1	12/01/16 09:12	12/01/16 19:48	100-42-5	
Tetrachloroethene	<0.000072	mg/kg	0.0062	0.000072	1	12/01/16 09:12	12/01/16 19:48	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/01/16 09:12	12/01/16 19:48	109-99-9	
Toluene	<0.00011	mg/kg	0.0062	0.00011	1	12/01/16 09:12	12/01/16 19:48	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0062	0.00017	1	12/01/16 09:12	12/01/16 19:48	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0062	0.00019	1	12/01/16 09:12	12/01/16 19:48	75-69-4	
Vinyl chloride	<0.00019	mg/kg	0.0062	0.00019	1	12/01/16 09:12	12/01/16 19:48	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0062	0.00015	1	12/01/16 09:12	12/01/16 19:48	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0062	0.00014	1	12/01/16 09:12	12/01/16 19:48	10061-01-5	
m&p-Xylene	<0.0031	mg/kg	0.0062	0.0031	1	12/01/16 09:12	12/01/16 19:48	179601-23-1	
o-Xylene	<0.000098	mg/kg	0.0062	0.000098	1	12/01/16 09:12	12/01/16 19:48	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB30-SS-5 **Lab ID: 1279470025** Collected: 11/20/16 14:12 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0062	0.00016	1	12/01/16 09:12	12/01/16 19:48	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0062	0.00014	1	12/01/16 09:12	12/01/16 19:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	12/01/16 09:12	12/01/16 19:48	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 19:48	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1	12/01/16 09:12	12/01/16 19:48	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	20.0	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB30-SS-10** Lab ID: **1279470026** Collected: 11/20/16 14:20 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0061	0.00014	1	12/01/16 09:12	12/01/16 20:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0030	mg/kg	0.0061	0.0030	1	12/01/16 09:12	12/01/16 20:08	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0061	0.00017	1	12/01/16 09:12	12/01/16 20:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00017	mg/kg	0.0061	0.00017	1	12/01/16 09:12	12/01/16 20:08	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0061	0.00014	1	12/01/16 09:12	12/01/16 20:08	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0061	0.00016	1	12/01/16 09:12	12/01/16 20:08	75-35-4	
1,2,4-Trichlorobenzene	<0.00015	mg/kg	0.0061	0.00015	1	12/01/16 09:12	12/01/16 20:08	120-82-1	
1,2,4-Trimethylbenzene	<0.00013	mg/kg	0.0061	0.00013	1	12/01/16 09:12	12/01/16 20:08	95-63-6	
1,2-Dibromoethane (EDB)	<0.000089	mg/kg	0.0061	0.000089	1	12/01/16 09:12	12/01/16 20:08	106-93-4	
1,2-Dichlorobenzene	<0.000086	mg/kg	0.0061	0.000086	1	12/01/16 09:12	12/01/16 20:08	95-50-1	
1,2-Dichloroethane	<0.0030	mg/kg	0.0061	0.0030	1	12/01/16 09:12	12/01/16 20:08	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0061	0.00010	1	12/01/16 09:12	12/01/16 20:08	108-67-8	
1,3-Dichlorobenzene	<0.000064	mg/kg	0.0061	0.000064	1	12/01/16 09:12	12/01/16 20:08	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0061	0.00017	1	12/01/16 09:12	12/01/16 20:08	106-46-7	
2-Butanone (MEK)	<0.0028	mg/kg	0.061	0.0028	1	12/01/16 09:12	12/01/16 20:08	78-93-3	
2-Hexanone	<0.00061	mg/kg	0.061	0.00061	1	12/01/16 09:12	12/01/16 20:08	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00047	mg/kg	0.061	0.00047	1	12/01/16 09:12	12/01/16 20:08	108-10-1	
Acetone	0.0045J	mg/kg	0.061	0.00067	1	12/01/16 09:12	12/01/16 20:08	67-64-1	
Benzene	<0.000092	mg/kg	0.0061	0.000092	1	12/01/16 09:12	12/01/16 20:08	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0061	0.00015	1	12/01/16 09:12	12/01/16 20:08	75-27-4	
Bromoform	<0.00026	mg/kg	0.0061	0.00026	1	12/01/16 09:12	12/01/16 20:08	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	12/01/16 09:12	12/01/16 20:08	74-83-9	
Carbon tetrachloride	<0.00021	mg/kg	0.0061	0.00021	1	12/01/16 09:12	12/01/16 20:08	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0061	0.00012	1	12/01/16 09:12	12/01/16 20:08	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0061	0.00024	1	12/01/16 09:12	12/01/16 20:08	75-00-3	
Chloroform	<0.000080	mg/kg	0.0061	0.000080	1	12/01/16 09:12	12/01/16 20:08	67-66-3	
Chloromethane	<0.00016	mg/kg	0.0061	0.00016	1	12/01/16 09:12	12/01/16 20:08	74-87-3	
Dibromochloromethane	<0.000098	mg/kg	0.0061	0.000098	1	12/01/16 09:12	12/01/16 20:08	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0061	0.00013	1	12/01/16 09:12	12/01/16 20:08	75-71-8	
Ethylbenzene	<0.000064	mg/kg	0.0061	0.000064	1	12/01/16 09:12	12/01/16 20:08	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0061	0.00018	1	12/01/16 09:12	12/01/16 20:08	87-68-3	
Methyl-tert-butyl ether	<0.000070	mg/kg	0.0061	0.000070	1	12/01/16 09:12	12/01/16 20:08	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0061	0.00014	1	12/01/16 09:12	12/01/16 20:08	75-09-2	
Naphthalene	<0.00011	mg/kg	0.0061	0.00011	1	12/01/16 09:12	12/01/16 20:08	91-20-3	
Styrene	<0.00011	mg/kg	0.0061	0.00011	1	12/01/16 09:12	12/01/16 20:08	100-42-5	
Tetrachloroethene	<0.000071	mg/kg	0.0061	0.000071	1	12/01/16 09:12	12/01/16 20:08	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/01/16 09:12	12/01/16 20:08	109-99-9	
Toluene	<0.00011	mg/kg	0.0061	0.00011	1	12/01/16 09:12	12/01/16 20:08	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0061	0.00017	1	12/01/16 09:12	12/01/16 20:08	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0061	0.00019	1	12/01/16 09:12	12/01/16 20:08	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0061	0.00018	1	12/01/16 09:12	12/01/16 20:08	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0061	0.00015	1	12/01/16 09:12	12/01/16 20:08	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0061	0.00014	1	12/01/16 09:12	12/01/16 20:08	10061-01-5	
m&p-Xylene	<0.0030	mg/kg	0.0061	0.0030	1	12/01/16 09:12	12/01/16 20:08	179601-23-1	
o-Xylene	<0.000097	mg/kg	0.0061	0.000097	1	12/01/16 09:12	12/01/16 20:08	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB30-SS-10 **Lab ID: 1279470026** Collected: 11/20/16 14:20 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0061	0.00016	1	12/01/16 09:12	12/01/16 20:08	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0061	0.00014	1	12/01/16 09:12	12/01/16 20:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	12/01/16 09:12	12/01/16 20:08	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 20:08	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1	12/01/16 09:12	12/01/16 20:08	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	18.2	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB30-SS-15** Lab ID: **1279470027** Collected: 11/20/16 14:34 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 20:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0058	0.0029	1	12/01/16 09:12	12/01/16 20:28	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 20:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0058	0.00016	1	12/01/16 09:12	12/01/16 20:28	76-13-1	
1,1-Dichloroethane	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 20:28	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0058	0.00016	1	12/01/16 09:12	12/01/16 20:28	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0058	0.00014	1	12/01/16 09:12	12/01/16 20:28	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0058	0.00012	1	12/01/16 09:12	12/01/16 20:28	95-63-6	
1,2-Dibromoethane (EDB)	<0.000085	mg/kg	0.0058	0.000085	1	12/01/16 09:12	12/01/16 20:28	106-93-4	
1,2-Dichlorobenzene	<0.000083	mg/kg	0.0058	0.000083	1	12/01/16 09:12	12/01/16 20:28	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0058	0.0029	1	12/01/16 09:12	12/01/16 20:28	107-06-2	
1,3,5-Trimethylbenzene	<0.000098	mg/kg	0.0058	0.000098	1	12/01/16 09:12	12/01/16 20:28	108-67-8	
1,3-Dichlorobenzene	<0.000061	mg/kg	0.0058	0.000061	1	12/01/16 09:12	12/01/16 20:28	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 20:28	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.058	0.0027	1	12/01/16 09:12	12/01/16 20:28	78-93-3	
2-Hexanone	<0.00059	mg/kg	0.058	0.00059	1	12/01/16 09:12	12/01/16 20:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00045	mg/kg	0.058	0.00045	1	12/01/16 09:12	12/01/16 20:28	108-10-1	
Acetone	0.0040J	mg/kg	0.058	0.00064	1	12/01/16 09:12	12/01/16 20:28	67-64-1	
Benzene	<0.000088	mg/kg	0.0058	0.000088	1	12/01/16 09:12	12/01/16 20:28	71-43-2	
Bromodichloromethane	<0.00014	mg/kg	0.0058	0.00014	1	12/01/16 09:12	12/01/16 20:28	75-27-4	
Bromoform	<0.00025	mg/kg	0.0058	0.00025	1	12/01/16 09:12	12/01/16 20:28	75-25-2	
Bromomethane	<0.00019	mg/kg	0.023	0.00019	1	12/01/16 09:12	12/01/16 20:28	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0058	0.00020	1	12/01/16 09:12	12/01/16 20:28	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0058	0.00012	1	12/01/16 09:12	12/01/16 20:28	108-90-7	
Chloroethane	<0.00023	mg/kg	0.0058	0.00023	1	12/01/16 09:12	12/01/16 20:28	75-00-3	
Chloroform	<0.000077	mg/kg	0.0058	0.000077	1	12/01/16 09:12	12/01/16 20:28	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0058	0.00015	1	12/01/16 09:12	12/01/16 20:28	74-87-3	
Dibromochloromethane	<0.000094	mg/kg	0.0058	0.000094	1	12/01/16 09:12	12/01/16 20:28	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 20:28	75-71-8	
Ethylbenzene	<0.000062	mg/kg	0.0058	0.000062	1	12/01/16 09:12	12/01/16 20:28	100-41-4	
Hexachloro-1,3-butadiene	<0.00017	mg/kg	0.0058	0.00017	1	12/01/16 09:12	12/01/16 20:28	87-68-3	
Methyl-tert-butyl ether	<0.000067	mg/kg	0.0058	0.000067	1	12/01/16 09:12	12/01/16 20:28	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 20:28	75-09-2	
Naphthalene	<0.00010	mg/kg	0.0058	0.00010	1	12/01/16 09:12	12/01/16 20:28	91-20-3	
Styrene	<0.00010	mg/kg	0.0058	0.00010	1	12/01/16 09:12	12/01/16 20:28	100-42-5	
Tetrachloroethene	<0.000068	mg/kg	0.0058	0.000068	1	12/01/16 09:12	12/01/16 20:28	127-18-4	
Tetrahydrofuran	<0.0015	mg/kg	0.12	0.0015	1	12/01/16 09:12	12/01/16 20:28	109-99-9	
Toluene	<0.00011	mg/kg	0.0058	0.00011	1	12/01/16 09:12	12/01/16 20:28	108-88-3	
Trichloroethene	<0.00016	mg/kg	0.0058	0.00016	1	12/01/16 09:12	12/01/16 20:28	79-01-6	
Trichlorofluoromethane	<0.00018	mg/kg	0.0058	0.00018	1	12/01/16 09:12	12/01/16 20:28	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0058	0.00018	1	12/01/16 09:12	12/01/16 20:28	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0058	0.00014	1	12/01/16 09:12	12/01/16 20:28	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 20:28	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0058	0.0029	1	12/01/16 09:12	12/01/16 20:28	179601-23-1	
o-Xylene	<0.000093	mg/kg	0.0058	0.000093	1	12/01/16 09:12	12/01/16 20:28	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB30-SS-15 **Lab ID: 1279470027** Collected: 11/20/16 14:34 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00015	mg/kg	0.0058	0.00015	1	12/01/16 09:12	12/01/16 20:28	156-60-5	
trans-1,3-Dichloropropene	<0.00013	mg/kg	0.0058	0.00013	1	12/01/16 09:12	12/01/16 20:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	12/01/16 09:12	12/01/16 20:28	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/01/16 09:12	12/01/16 20:28	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1	12/01/16 09:12	12/01/16 20:28	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	15.3	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB31-SS-5 Lab ID: 1279470028 Collected: 11/20/16 15:10 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0060	0.00014	1	12/02/16 10:08	12/02/16 11:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0030	mg/kg	0.0060	0.0030	1	12/02/16 10:08	12/02/16 11:49	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0060	0.00017	1	12/02/16 10:08	12/02/16 11:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00017	mg/kg	0.0060	0.00017	1	12/02/16 10:08	12/02/16 11:49	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0060	0.00014	1	12/02/16 10:08	12/02/16 11:49	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0060	0.00016	1	12/02/16 10:08	12/02/16 11:49	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0060	0.00014	1	12/02/16 10:08	12/02/16 11:49	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0060	0.00012	1	12/02/16 10:08	12/02/16 11:49	95-63-6	
1,2-Dibromoethane (EDB)	<0.000087	mg/kg	0.0060	0.000087	1	12/02/16 10:08	12/02/16 11:49	106-93-4	
1,2-Dichlorobenzene	<0.000085	mg/kg	0.0060	0.000085	1	12/02/16 10:08	12/02/16 11:49	95-50-1	
1,2-Dichloroethane	<0.0030	mg/kg	0.0060	0.0030	1	12/02/16 10:08	12/02/16 11:49	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0060	0.00010	1	12/02/16 10:08	12/02/16 11:49	108-67-8	
1,3-Dichlorobenzene	<0.000063	mg/kg	0.0060	0.000063	1	12/02/16 10:08	12/02/16 11:49	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0060	0.00017	1	12/02/16 10:08	12/02/16 11:49	106-46-7	
2-Butanone (MEK)	<0.0028	mg/kg	0.060	0.0028	1	12/02/16 10:08	12/02/16 11:49	78-93-3	
2-Hexanone	<0.00060	mg/kg	0.060	0.00060	1	12/02/16 10:08	12/02/16 11:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00047	mg/kg	0.060	0.00047	1	12/02/16 10:08	12/02/16 11:49	108-10-1	
Acetone	0.0052J	mg/kg	0.060	0.00066	1	12/02/16 10:08	12/02/16 11:49	67-64-1	
Benzene	<0.000091	mg/kg	0.0060	0.000091	1	12/02/16 10:08	12/02/16 11:49	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0060	0.00015	1	12/02/16 10:08	12/02/16 11:49	75-27-4	
Bromoform	<0.00025	mg/kg	0.0060	0.00025	1	12/02/16 10:08	12/02/16 11:49	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	12/02/16 10:08	12/02/16 11:49	74-83-9	
Carbon tetrachloride	<0.00021	mg/kg	0.0060	0.00021	1	12/02/16 10:08	12/02/16 11:49	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0060	0.00012	1	12/02/16 10:08	12/02/16 11:49	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0060	0.00024	1	12/02/16 10:08	12/02/16 11:49	75-00-3	
Chloroform	<0.000079	mg/kg	0.0060	0.000079	1	12/02/16 10:08	12/02/16 11:49	67-66-3	
Chloromethane	<0.00016	mg/kg	0.0060	0.00016	1	12/02/16 10:08	12/02/16 11:49	74-87-3	
Dibromochloromethane	<0.000097	mg/kg	0.0060	0.000097	1	12/02/16 10:08	12/02/16 11:49	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0060	0.00013	1	12/02/16 10:08	12/02/16 11:49	75-71-8	
Ethylbenzene	<0.000063	mg/kg	0.0060	0.000063	1	12/02/16 10:08	12/02/16 11:49	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0060	0.00018	1	12/02/16 10:08	12/02/16 11:49	87-68-3	
Methyl-tert-butyl ether	<0.000069	mg/kg	0.0060	0.000069	1	12/02/16 10:08	12/02/16 11:49	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0060	0.00013	1	12/02/16 10:08	12/02/16 11:49	75-09-2	
Naphthalene	0.00011J	mg/kg	0.0060	0.00010	1	12/02/16 10:08	12/02/16 11:49	91-20-3	
Styrene	<0.00010	mg/kg	0.0060	0.00010	1	12/02/16 10:08	12/02/16 11:49	100-42-5	
Tetrachloroethene	<0.000070	mg/kg	0.0060	0.000070	1	12/02/16 10:08	12/02/16 11:49	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/02/16 10:08	12/02/16 11:49	109-99-9	
Toluene	<0.00011	mg/kg	0.0060	0.00011	1	12/02/16 10:08	12/02/16 11:49	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0060	0.00017	1	12/02/16 10:08	12/02/16 11:49	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0060	0.00019	1	12/02/16 10:08	12/02/16 11:49	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0060	0.00018	1	12/02/16 10:08	12/02/16 11:49	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0060	0.00014	1	12/02/16 10:08	12/02/16 11:49	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0060	0.00014	1	12/02/16 10:08	12/02/16 11:49	10061-01-5	
m&p-Xylene	<0.0030	mg/kg	0.0060	0.0030	1	12/02/16 10:08	12/02/16 11:49	179601-23-1	
o-Xylene	<0.000095	mg/kg	0.0060	0.000095	1	12/02/16 10:08	12/02/16 11:49	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB31-SS-5 **Lab ID: 1279470028** Collected: 11/20/16 15:10 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0060	0.00016	1	12/02/16 10:08	12/02/16 11:49	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0060	0.00014	1	12/02/16 10:08	12/02/16 11:49	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	70-130		1	12/02/16 10:08	12/02/16 11:49	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/02/16 10:08	12/02/16 11:49	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1	12/02/16 10:08	12/02/16 11:49	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	16.9	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB31-SS-10** Lab ID: **1279470029** Collected: 11/20/16 15:20 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0061	0.00014	1	12/02/16 10:08	12/02/16 13:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0031	mg/kg	0.0061	0.0031	1	12/02/16 10:08	12/02/16 13:28	79-34-5	
1,1,2-Trichloroethane	<0.00018	mg/kg	0.0061	0.00018	1	12/02/16 10:08	12/02/16 13:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00017	mg/kg	0.0061	0.00017	1	12/02/16 10:08	12/02/16 13:28	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0061	0.00014	1	12/02/16 10:08	12/02/16 13:28	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0061	0.00016	1	12/02/16 10:08	12/02/16 13:28	75-35-4	
1,2,4-Trichlorobenzene	<0.00015	mg/kg	0.0061	0.00015	1	12/02/16 10:08	12/02/16 13:28	120-82-1	
1,2,4-Trimethylbenzene	<0.00013	mg/kg	0.0061	0.00013	1	12/02/16 10:08	12/02/16 13:28	95-63-6	
1,2-Dibromoethane (EDB)	<0.000090	mg/kg	0.0061	0.000090	1	12/02/16 10:08	12/02/16 13:28	106-93-4	
1,2-Dichlorobenzene	<0.000087	mg/kg	0.0061	0.000087	1	12/02/16 10:08	12/02/16 13:28	95-50-1	
1,2-Dichloroethane	<0.0031	mg/kg	0.0061	0.0031	1	12/02/16 10:08	12/02/16 13:28	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0061	0.00010	1	12/02/16 10:08	12/02/16 13:28	108-67-8	
1,3-Dichlorobenzene	<0.000064	mg/kg	0.0061	0.000064	1	12/02/16 10:08	12/02/16 13:28	541-73-1	
1,4-Dichlorobenzene	<0.00018	mg/kg	0.0061	0.00018	1	12/02/16 10:08	12/02/16 13:28	106-46-7	
2-Butanone (MEK)	<0.0028	mg/kg	0.061	0.0028	1	12/02/16 10:08	12/02/16 13:28	78-93-3	
2-Hexanone	<0.00062	mg/kg	0.061	0.00062	1	12/02/16 10:08	12/02/16 13:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00048	mg/kg	0.061	0.00048	1	12/02/16 10:08	12/02/16 13:28	108-10-1	
Acetone	0.0060J	mg/kg	0.061	0.00068	1	12/02/16 10:08	12/02/16 13:28	67-64-1	
Benzene	<0.000093	mg/kg	0.0061	0.000093	1	12/02/16 10:08	12/02/16 13:28	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0061	0.00015	1	12/02/16 10:08	12/02/16 13:28	75-27-4	
Bromoform	<0.00026	mg/kg	0.0061	0.00026	1	12/02/16 10:08	12/02/16 13:28	75-25-2	
Bromomethane	<0.00020	mg/kg	0.025	0.00020	1	12/02/16 10:08	12/02/16 13:28	74-83-9	
Carbon tetrachloride	<0.00021	mg/kg	0.0061	0.00021	1	12/02/16 10:08	12/02/16 13:28	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0061	0.00012	1	12/02/16 10:08	12/02/16 13:28	108-90-7	
Chloroethane	<0.00025	mg/kg	0.0061	0.00025	1	12/02/16 10:08	12/02/16 13:28	75-00-3	
Chloroform	<0.000081	mg/kg	0.0061	0.000081	1	12/02/16 10:08	12/02/16 13:28	67-66-3	
Chloromethane	<0.00016	mg/kg	0.0061	0.00016	1	12/02/16 10:08	12/02/16 13:28	74-87-3	
Dibromochloromethane	<0.00010	mg/kg	0.0061	0.00010	1	12/02/16 10:08	12/02/16 13:28	124-48-1	
Dichlorodifluoromethane	<0.00014	mg/kg	0.0061	0.00014	1	12/02/16 10:08	12/02/16 13:28	75-71-8	
Ethylbenzene	<0.000065	mg/kg	0.0061	0.000065	1	12/02/16 10:08	12/02/16 13:28	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0061	0.00018	1	12/02/16 10:08	12/02/16 13:28	87-68-3	
Methyl-tert-butyl ether	<0.000071	mg/kg	0.0061	0.000071	1	12/02/16 10:08	12/02/16 13:28	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0061	0.00014	1	12/02/16 10:08	12/02/16 13:28	75-09-2	
Naphthalene	0.00019J	mg/kg	0.0061	0.00011	1	12/02/16 10:08	12/02/16 13:28	91-20-3	
Styrene	<0.00011	mg/kg	0.0061	0.00011	1	12/02/16 10:08	12/02/16 13:28	100-42-5	
Tetrachloroethene	<0.000072	mg/kg	0.0061	0.000072	1	12/02/16 10:08	12/02/16 13:28	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/02/16 10:08	12/02/16 13:28	109-99-9	
Toluene	<0.00011	mg/kg	0.0061	0.00011	1	12/02/16 10:08	12/02/16 13:28	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0061	0.00017	1	12/02/16 10:08	12/02/16 13:28	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0061	0.00019	1	12/02/16 10:08	12/02/16 13:28	75-69-4	
Vinyl chloride	<0.00019	mg/kg	0.0061	0.00019	1	12/02/16 10:08	12/02/16 13:28	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0061	0.00015	1	12/02/16 10:08	12/02/16 13:28	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0061	0.00014	1	12/02/16 10:08	12/02/16 13:28	10061-01-5	
m&p-Xylene	<0.0031	mg/kg	0.0061	0.0031	1	12/02/16 10:08	12/02/16 13:28	179601-23-1	
o-Xylene	<0.000098	mg/kg	0.0061	0.000098	1	12/02/16 10:08	12/02/16 13:28	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB31-SS-10 **Lab ID: 1279470029** Collected: 11/20/16 15:20 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0061	0.00016	1	12/02/16 10:08	12/02/16 13:28	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0061	0.00014	1	12/02/16 10:08	12/02/16 13:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	12/02/16 10:08	12/02/16 13:28	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1	12/02/16 10:08	12/02/16 13:28	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1	12/02/16 10:08	12/02/16 13:28	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	20.5	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB31-SS-15 Lab ID: 1279470030 Collected: 11/20/16 15:33 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 13:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0059	0.0029	1	12/02/16 10:08	12/02/16 13:48	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 13:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0059	0.00016	1	12/02/16 10:08	12/02/16 13:48	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 13:48	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/02/16 10:08	12/02/16 13:48	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 13:48	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/02/16 10:08	12/02/16 13:48	95-63-6	
1,2-Dibromoethane (EDB)	<0.000086	mg/kg	0.0059	0.000086	1	12/02/16 10:08	12/02/16 13:48	106-93-4	
1,2-Dichlorobenzene	<0.000084	mg/kg	0.0059	0.000084	1	12/02/16 10:08	12/02/16 13:48	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0059	0.0029	1	12/02/16 10:08	12/02/16 13:48	107-06-2	
1,3,5-Trimethylbenzene	<0.000099	mg/kg	0.0059	0.000099	1	12/02/16 10:08	12/02/16 13:48	108-67-8	
1,3-Dichlorobenzene	<0.000062	mg/kg	0.0059	0.000062	1	12/02/16 10:08	12/02/16 13:48	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 13:48	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.059	0.0027	1	12/02/16 10:08	12/02/16 13:48	78-93-3	
2-Hexanone	<0.00059	mg/kg	0.059	0.00059	1	12/02/16 10:08	12/02/16 13:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00046	mg/kg	0.059	0.00046	1	12/02/16 10:08	12/02/16 13:48	108-10-1	
Acetone	0.0063J	mg/kg	0.059	0.00065	1	12/02/16 10:08	12/02/16 13:48	67-64-1	
Benzene	<0.000089	mg/kg	0.0059	0.000089	1	12/02/16 10:08	12/02/16 13:48	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/02/16 10:08	12/02/16 13:48	75-27-4	
Bromoform	<0.00025	mg/kg	0.0059	0.00025	1	12/02/16 10:08	12/02/16 13:48	75-25-2	
Bromomethane	<0.00020	mg/kg	0.024	0.00020	1	12/02/16 10:08	12/02/16 13:48	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0059	0.00020	1	12/02/16 10:08	12/02/16 13:48	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/02/16 10:08	12/02/16 13:48	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0059	0.00024	1	12/02/16 10:08	12/02/16 13:48	75-00-3	
Chloroform	<0.000078	mg/kg	0.0059	0.000078	1	12/02/16 10:08	12/02/16 13:48	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/02/16 10:08	12/02/16 13:48	74-87-3	
Dibromochloromethane	<0.000096	mg/kg	0.0059	0.000096	1	12/02/16 10:08	12/02/16 13:48	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 13:48	75-71-8	
Ethylbenzene	<0.000062	mg/kg	0.0059	0.000062	1	12/02/16 10:08	12/02/16 13:48	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0059	0.00018	1	12/02/16 10:08	12/02/16 13:48	87-68-3	
Methyl-tert-butyl ether	<0.000068	mg/kg	0.0059	0.000068	1	12/02/16 10:08	12/02/16 13:48	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 13:48	75-09-2	
Naphthalene	0.00012J	mg/kg	0.0059	0.00010	1	12/02/16 10:08	12/02/16 13:48	91-20-3	
Styrene	<0.00010	mg/kg	0.0059	0.00010	1	12/02/16 10:08	12/02/16 13:48	100-42-5	
Tetrachloroethene	<0.000069	mg/kg	0.0059	0.000069	1	12/02/16 10:08	12/02/16 13:48	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/02/16 10:08	12/02/16 13:48	109-99-9	
Toluene	<0.00011	mg/kg	0.0059	0.00011	1	12/02/16 10:08	12/02/16 13:48	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 13:48	79-01-6	
Trichlorofluoromethane	<0.00019	mg/kg	0.0059	0.00019	1	12/02/16 10:08	12/02/16 13:48	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0059	0.00018	1	12/02/16 10:08	12/02/16 13:48	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 13:48	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 13:48	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0059	0.0029	1	12/02/16 10:08	12/02/16 13:48	179601-23-1	
o-Xylene	<0.000094	mg/kg	0.0059	0.000094	1	12/02/16 10:08	12/02/16 13:48	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB31-SS-15 **Lab ID: 1279470030** Collected: 11/20/16 15:33 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/02/16 10:08	12/02/16 13:48	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 13:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	70-130		1	12/02/16 10:08	12/02/16 13:48	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/02/16 10:08	12/02/16 13:48	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1	12/02/16 10:08	12/02/16 13:48	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	15.0	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-5 Lab ID: 1279470031 Collected: 11/21/16 10:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 14:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0059	0.0029	1	12/02/16 10:08	12/02/16 14:08	79-34-5	
1,1,2-Trichloroethane	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 14:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0059	0.00016	1	12/02/16 10:08	12/02/16 14:08	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 14:08	75-34-3	
1,1-Dichloroethene	<0.00016	mg/kg	0.0059	0.00016	1	12/02/16 10:08	12/02/16 14:08	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 14:08	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/02/16 10:08	12/02/16 14:08	95-63-6	
1,2-Dibromoethane (EDB)	<0.000086	mg/kg	0.0059	0.000086	1	12/02/16 10:08	12/02/16 14:08	106-93-4	
1,2-Dichlorobenzene	<0.000083	mg/kg	0.0059	0.000083	1	12/02/16 10:08	12/02/16 14:08	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0059	0.0029	1	12/02/16 10:08	12/02/16 14:08	107-06-2	
1,3,5-Trimethylbenzene	<0.000099	mg/kg	0.0059	0.000099	1	12/02/16 10:08	12/02/16 14:08	108-67-8	
1,3-Dichlorobenzene	<0.000061	mg/kg	0.0059	0.000061	1	12/02/16 10:08	12/02/16 14:08	541-73-1	
1,4-Dichlorobenzene	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 14:08	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.059	0.0027	1	12/02/16 10:08	12/02/16 14:08	78-93-3	
2-Hexanone	<0.00059	mg/kg	0.059	0.00059	1	12/02/16 10:08	12/02/16 14:08	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00046	mg/kg	0.059	0.00046	1	12/02/16 10:08	12/02/16 14:08	108-10-1	
Acetone	<0.00065	mg/kg	0.059	0.00065	1	12/02/16 10:08	12/02/16 14:08	67-64-1	
Benzene	<0.000089	mg/kg	0.0059	0.000089	1	12/02/16 10:08	12/02/16 14:08	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/02/16 10:08	12/02/16 14:08	75-27-4	
Bromoform	<0.00025	mg/kg	0.0059	0.00025	1	12/02/16 10:08	12/02/16 14:08	75-25-2	
Bromomethane	<0.00020	mg/kg	0.023	0.00020	1	12/02/16 10:08	12/02/16 14:08	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0059	0.00020	1	12/02/16 10:08	12/02/16 14:08	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0059	0.00012	1	12/02/16 10:08	12/02/16 14:08	108-90-7	
Chloroethane	<0.00024	mg/kg	0.0059	0.00024	1	12/02/16 10:08	12/02/16 14:08	75-00-3	
Chloroform	<0.000077	mg/kg	0.0059	0.000077	1	12/02/16 10:08	12/02/16 14:08	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0059	0.00015	1	12/02/16 10:08	12/02/16 14:08	74-87-3	
Dibromochloromethane	<0.000095	mg/kg	0.0059	0.000095	1	12/02/16 10:08	12/02/16 14:08	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 14:08	75-71-8	
Ethylbenzene	<0.000062	mg/kg	0.0059	0.000062	1	12/02/16 10:08	12/02/16 14:08	100-41-4	
Hexachloro-1,3-butadiene	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 14:08	87-68-3	
Methyl-tert-butyl ether	<0.000068	mg/kg	0.0059	0.000068	1	12/02/16 10:08	12/02/16 14:08	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 14:08	75-09-2	
Naphthalene	0.00011J	mg/kg	0.0059	0.00010	1	12/02/16 10:08	12/02/16 14:08	91-20-3	
Styrene	<0.00010	mg/kg	0.0059	0.00010	1	12/02/16 10:08	12/02/16 14:08	100-42-5	
Tetrachloroethene	<0.000069	mg/kg	0.0059	0.000069	1	12/02/16 10:08	12/02/16 14:08	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/02/16 10:08	12/02/16 14:08	109-99-9	
Toluene	<0.00011	mg/kg	0.0059	0.00011	1	12/02/16 10:08	12/02/16 14:08	108-88-3	
Trichloroethene	<0.00017	mg/kg	0.0059	0.00017	1	12/02/16 10:08	12/02/16 14:08	79-01-6	
Trichlorofluoromethane	<0.00018	mg/kg	0.0059	0.00018	1	12/02/16 10:08	12/02/16 14:08	75-69-4	
Vinyl chloride	<0.00018	mg/kg	0.0059	0.00018	1	12/02/16 10:08	12/02/16 14:08	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 14:08	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0059	0.00013	1	12/02/16 10:08	12/02/16 14:08	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0059	0.0029	1	12/02/16 10:08	12/02/16 14:08	179601-23-1	
o-Xylene	<0.000094	mg/kg	0.0059	0.000094	1	12/02/16 10:08	12/02/16 14:08	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-5 **Lab ID: 1279470031** Collected: 11/21/16 10:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00015	mg/kg	0.0059	0.00015	1	12/02/16 10:08	12/02/16 14:08	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0059	0.00014	1	12/02/16 10:08	12/02/16 14:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	70-130		1	12/02/16 10:08	12/02/16 14:08	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1	12/02/16 10:08	12/02/16 14:08	2037-26-5	
4-Bromofluorobenzene (S)	83	%	70-130		1	12/02/16 10:08	12/02/16 14:08	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	15.4	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB32-SS-10** Lab ID: **1279470032** Collected: 11/21/16 10:08 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0076	0.00017	1	12/06/16 15:28	12/06/16 21:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0038	mg/kg	0.0076	0.0038	1	12/06/16 15:28	12/06/16 21:48	79-34-5	
1,1,2-Trichloroethane	<0.00022	mg/kg	0.0076	0.00022	1	12/06/16 15:28	12/06/16 21:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0076	0.00021	1	12/06/16 15:28	12/06/16 21:48	76-13-1	
1,1-Dichloroethane	<0.00018	mg/kg	0.0076	0.00018	1	12/06/16 15:28	12/06/16 21:48	75-34-3	
1,1-Dichloroethene	<0.00020	mg/kg	0.0076	0.00020	1	12/06/16 15:28	12/06/16 21:48	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0076	0.00018	1	12/06/16 15:28	12/06/16 21:48	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0076	0.00016	1	12/06/16 15:28	12/06/16 21:48	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0076	0.00011	1	12/06/16 15:28	12/06/16 21:48	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0076	0.00011	1	12/06/16 15:28	12/06/16 21:48	95-50-1	
1,2-Dichloroethane	<0.0038	mg/kg	0.0076	0.0038	1	12/06/16 15:28	12/06/16 21:48	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0076	0.00013	1	12/06/16 15:28	12/06/16 21:48	108-67-8	
1,3-Dichlorobenzene	<0.000080	mg/kg	0.0076	0.000080	1	12/06/16 15:28	12/06/16 21:48	541-73-1	
1,4-Dichlorobenzene	<0.00022	mg/kg	0.0076	0.00022	1	12/06/16 15:28	12/06/16 21:48	106-46-7	
2-Butanone (MEK)	<0.0035	mg/kg	0.076	0.0035	1	12/06/16 15:28	12/06/16 21:48	78-93-3	
2-Hexanone	<0.00077	mg/kg	0.076	0.00077	1	12/06/16 15:28	12/06/16 21:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00059	mg/kg	0.076	0.00059	1	12/06/16 15:28	12/06/16 21:48	108-10-1	
Acetone	<0.00084	mg/kg	0.076	0.00084	1	12/06/16 15:28	12/06/16 21:48	67-64-1	
Benzene	<0.00012	mg/kg	0.0076	0.00012	1	12/06/16 15:28	12/06/16 21:48	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0076	0.00019	1	12/06/16 15:28	12/06/16 21:48	75-27-4	
Bromoform	<0.00032	mg/kg	0.0076	0.00032	1	12/06/16 15:28	12/06/16 21:48	75-25-2	
Bromomethane	<0.00025	mg/kg	0.030	0.00025	1	12/06/16 15:28	12/06/16 21:48	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0076	0.00026	1	12/06/16 15:28	12/06/16 21:48	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0076	0.00015	1	12/06/16 15:28	12/06/16 21:48	108-90-7	
Chloroethane	<0.00031	mg/kg	0.0076	0.00031	1	12/06/16 15:28	12/06/16 21:48	75-00-3	
Chloroform	<0.00010	mg/kg	0.0076	0.00010	1	12/06/16 15:28	12/06/16 21:48	67-66-3	
Chloromethane	<0.00020	mg/kg	0.0076	0.00020	1	12/06/16 15:28	12/06/16 21:48	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0076	0.00012	1	12/06/16 15:28	12/06/16 21:48	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0076	0.00017	1	12/06/16 15:28	12/06/16 21:48	75-71-8	
Ethylbenzene	<0.000081	mg/kg	0.0076	0.000081	1	12/06/16 15:28	12/06/16 21:48	100-41-4	
Hexachloro-1,3-butadiene	<0.00023	mg/kg	0.0076	0.00023	1	12/06/16 15:28	12/06/16 21:48	87-68-3	
Methyl-tert-butyl ether	<0.000088	mg/kg	0.0076	0.000088	1	12/06/16 15:28	12/06/16 21:48	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0076	0.00017	1	12/06/16 15:28	12/06/16 21:48	75-09-2	
Naphthalene	0.00023J	mg/kg	0.0076	0.00013	1	12/06/16 15:28	12/06/16 21:48	91-20-3	
Styrene	<0.00013	mg/kg	0.0076	0.00013	1	12/06/16 15:28	12/06/16 21:48	100-42-5	
Tetrachloroethene	<0.000089	mg/kg	0.0076	0.000089	1	12/06/16 15:28	12/06/16 21:48	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/06/16 15:28	12/06/16 21:48	109-99-9	
Toluene	<0.00014	mg/kg	0.0076	0.00014	1	12/06/16 15:28	12/06/16 21:48	108-88-3	
Trichloroethene	<0.00022	mg/kg	0.0076	0.00022	1	12/06/16 15:28	12/06/16 21:48	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0076	0.00024	1	12/06/16 15:28	12/06/16 21:48	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0076	0.00023	1	12/06/16 15:28	12/06/16 21:48	75-01-4	
cis-1,2-Dichloroethene	<0.00018	mg/kg	0.0076	0.00018	1	12/06/16 15:28	12/06/16 21:48	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0076	0.00017	1	12/06/16 15:28	12/06/16 21:48	10061-01-5	
m&p-Xylene	<0.0038	mg/kg	0.0076	0.0038	1	12/06/16 15:28	12/06/16 21:48	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0076	0.00012	1	12/06/16 15:28	12/06/16 21:48	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-10 **Lab ID: 1279470032** Collected: 11/21/16 10:08 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0076	0.00020	1	12/06/16 15:28	12/06/16 21:48	156-60-5	
trans-1,3-Dichloropropene	<0.00018	mg/kg	0.0076	0.00018	1	12/06/16 15:28	12/06/16 21:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1	12/06/16 15:28	12/06/16 21:48	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1	12/06/16 15:28	12/06/16 21:48	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1	12/06/16 15:28	12/06/16 21:48	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	34.5	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-15 Lab ID: 1279470033 Collected: 11/21/16 10:15 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00018	mg/kg	0.0080	0.00018	1	12/06/16 15:28	12/06/16 23:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0040	mg/kg	0.0080	0.0040	1	12/06/16 15:28	12/06/16 23:28	79-34-5	
1,1,2-Trichloroethane	<0.00023	mg/kg	0.0080	0.00023	1	12/06/16 15:28	12/06/16 23:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00022	mg/kg	0.0080	0.00022	1	12/06/16 15:28	12/06/16 23:28	76-13-1	
1,1-Dichloroethane	<0.00018	mg/kg	0.0080	0.00018	1	12/06/16 15:28	12/06/16 23:28	75-34-3	
1,1-Dichloroethene	<0.00021	mg/kg	0.0080	0.00021	1	12/06/16 15:28	12/06/16 23:28	75-35-4	
1,2,4-Trichlorobenzene	<0.00019	mg/kg	0.0080	0.00019	1	12/06/16 15:28	12/06/16 23:28	120-82-1	
1,2,4-Trimethylbenzene	<0.00017	mg/kg	0.0080	0.00017	1	12/06/16 15:28	12/06/16 23:28	95-63-6	
1,2-Dibromoethane (EDB)	<0.00012	mg/kg	0.0080	0.00012	1	12/06/16 15:28	12/06/16 23:28	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0080	0.00011	1	12/06/16 15:28	12/06/16 23:28	95-50-1	
1,2-Dichloroethane	<0.0040	mg/kg	0.0080	0.0040	1	12/06/16 15:28	12/06/16 23:28	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0080	0.00013	1	12/06/16 15:28	12/06/16 23:28	108-67-8	
1,3-Dichlorobenzene	<0.000084	mg/kg	0.0080	0.000084	1	12/06/16 15:28	12/06/16 23:28	541-73-1	
1,4-Dichlorobenzene	<0.00023	mg/kg	0.0080	0.00023	1	12/06/16 15:28	12/06/16 23:28	106-46-7	
2-Butanone (MEK)	<0.0037	mg/kg	0.080	0.0037	1	12/06/16 15:28	12/06/16 23:28	78-93-3	
2-Hexanone	<0.00080	mg/kg	0.080	0.00080	1	12/06/16 15:28	12/06/16 23:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00062	mg/kg	0.080	0.00062	1	12/06/16 15:28	12/06/16 23:28	108-10-1	
Acetone	0.0018J	mg/kg	0.080	0.00088	1	12/06/16 15:28	12/06/16 23:28	67-64-1	
Benzene	<0.00012	mg/kg	0.0080	0.00012	1	12/06/16 15:28	12/06/16 23:28	71-43-2	
Bromodichloromethane	<0.00020	mg/kg	0.0080	0.00020	1	12/06/16 15:28	12/06/16 23:28	75-27-4	
Bromoform	<0.00034	mg/kg	0.0080	0.00034	1	12/06/16 15:28	12/06/16 23:28	75-25-2	
Bromomethane	<0.00027	mg/kg	0.032	0.00027	1	12/06/16 15:28	12/06/16 23:28	74-83-9	
Carbon tetrachloride	<0.00027	mg/kg	0.0080	0.00027	1	12/06/16 15:28	12/06/16 23:28	56-23-5	
Chlorobenzene	<0.00016	mg/kg	0.0080	0.00016	1	12/06/16 15:28	12/06/16 23:28	108-90-7	
Chloroethane	<0.00032	mg/kg	0.0080	0.00032	1	12/06/16 15:28	12/06/16 23:28	75-00-3	
Chloroform	<0.00011	mg/kg	0.0080	0.00011	1	12/06/16 15:28	12/06/16 23:28	67-66-3	
Chloromethane	<0.00021	mg/kg	0.0080	0.00021	1	12/06/16 15:28	12/06/16 23:28	74-87-3	
Dibromochloromethane	<0.00013	mg/kg	0.0080	0.00013	1	12/06/16 15:28	12/06/16 23:28	124-48-1	
Dichlorodifluoromethane	<0.00018	mg/kg	0.0080	0.00018	1	12/06/16 15:28	12/06/16 23:28	75-71-8	
Ethylbenzene	<0.000085	mg/kg	0.0080	0.000085	1	12/06/16 15:28	12/06/16 23:28	100-41-4	
Hexachloro-1,3-butadiene	<0.00024	mg/kg	0.0080	0.00024	1	12/06/16 15:28	12/06/16 23:28	87-68-3	
Methyl-tert-butyl ether	<0.000092	mg/kg	0.0080	0.000092	1	12/06/16 15:28	12/06/16 23:28	1634-04-4	
Methylene Chloride	<0.00018	mg/kg	0.0080	0.00018	1	12/06/16 15:28	12/06/16 23:28	75-09-2	
Naphthalene	0.00042J	mg/kg	0.0080	0.00014	1	12/06/16 15:28	12/06/16 23:28	91-20-3	
Styrene	<0.00014	mg/kg	0.0080	0.00014	1	12/06/16 15:28	12/06/16 23:28	100-42-5	
Tetrachloroethene	<0.000093	mg/kg	0.0080	0.000093	1	12/06/16 15:28	12/06/16 23:28	127-18-4	
Tetrahydrofuran	<0.0021	mg/kg	0.16	0.0021	1	12/06/16 15:28	12/06/16 23:28	109-99-9	
Toluene	<0.00015	mg/kg	0.0080	0.00015	1	12/06/16 15:28	12/06/16 23:28	108-88-3	
Trichloroethene	<0.00023	mg/kg	0.0080	0.00023	1	12/06/16 15:28	12/06/16 23:28	79-01-6	
Trichlorofluoromethane	<0.00025	mg/kg	0.0080	0.00025	1	12/06/16 15:28	12/06/16 23:28	75-69-4	
Vinyl chloride	<0.00024	mg/kg	0.0080	0.00024	1	12/06/16 15:28	12/06/16 23:28	75-01-4	
cis-1,2-Dichloroethene	<0.00019	mg/kg	0.0080	0.00019	1	12/06/16 15:28	12/06/16 23:28	156-59-2	
cis-1,3-Dichloropropene	<0.00018	mg/kg	0.0080	0.00018	1	12/06/16 15:28	12/06/16 23:28	10061-01-5	
m&p-Xylene	<0.0040	mg/kg	0.0080	0.0040	1	12/06/16 15:28	12/06/16 23:28	179601-23-1	
o-Xylene	<0.00013	mg/kg	0.0080	0.00013	1	12/06/16 15:28	12/06/16 23:28	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-15 **Lab ID: 1279470033** Collected: 11/21/16 10:15 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00021	mg/kg	0.0080	0.00021	1	12/06/16 15:28	12/06/16 23:28	156-60-5	
trans-1,3-Dichloropropene	<0.00018	mg/kg	0.0080	0.00018	1	12/06/16 15:28	12/06/16 23:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1	12/06/16 15:28	12/06/16 23:28	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1	12/06/16 15:28	12/06/16 23:28	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1	12/06/16 15:28	12/06/16 23:28	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	37.6	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB32-SS-20** Lab ID: **1279470034** Collected: 11/21/16 10:22 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0070	0.00016	1	12/06/16 15:28	12/06/16 23:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0035	mg/kg	0.0070	0.0035	1	12/06/16 15:28	12/06/16 23:48	79-34-5	
1,1,2-Trichloroethane	<0.00020	mg/kg	0.0070	0.00020	1	12/06/16 15:28	12/06/16 23:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00019	mg/kg	0.0070	0.00019	1	12/06/16 15:28	12/06/16 23:48	76-13-1	
1,1-Dichloroethane	<0.00016	mg/kg	0.0070	0.00016	1	12/06/16 15:28	12/06/16 23:48	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0070	0.00019	1	12/06/16 15:28	12/06/16 23:48	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0070	0.00017	1	12/06/16 15:28	12/06/16 23:48	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0070	0.00015	1	12/06/16 15:28	12/06/16 23:48	95-63-6	
1,2-Dibromoethane (EDB)	<0.00010	mg/kg	0.0070	0.00010	1	12/06/16 15:28	12/06/16 23:48	106-93-4	
1,2-Dichlorobenzene	<0.000099	mg/kg	0.0070	0.000099	1	12/06/16 15:28	12/06/16 23:48	95-50-1	
1,2-Dichloroethane	<0.0035	mg/kg	0.0070	0.0035	1	12/06/16 15:28	12/06/16 23:48	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0070	0.00012	1	12/06/16 15:28	12/06/16 23:48	108-67-8	
1,3-Dichlorobenzene	<0.000073	mg/kg	0.0070	0.000073	1	12/06/16 15:28	12/06/16 23:48	541-73-1	
1,4-Dichlorobenzene	<0.00020	mg/kg	0.0070	0.00020	1	12/06/16 15:28	12/06/16 23:48	106-46-7	
2-Butanone (MEK)	<0.0032	mg/kg	0.070	0.0032	1	12/06/16 15:28	12/06/16 23:48	78-93-3	
2-Hexanone	<0.00070	mg/kg	0.070	0.00070	1	12/06/16 15:28	12/06/16 23:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00054	mg/kg	0.070	0.00054	1	12/06/16 15:28	12/06/16 23:48	108-10-1	
Acetone	<0.00077	mg/kg	0.070	0.00077	1	12/06/16 15:28	12/06/16 23:48	67-64-1	
Benzene	<0.00011	mg/kg	0.0070	0.00011	1	12/06/16 15:28	12/06/16 23:48	71-43-2	
Bromodichloromethane	<0.00017	mg/kg	0.0070	0.00017	1	12/06/16 15:28	12/06/16 23:48	75-27-4	
Bromoform	<0.00030	mg/kg	0.0070	0.00030	1	12/06/16 15:28	12/06/16 23:48	75-25-2	
Bromomethane	<0.00023	mg/kg	0.028	0.00023	1	12/06/16 15:28	12/06/16 23:48	74-83-9	
Carbon tetrachloride	<0.00024	mg/kg	0.0070	0.00024	1	12/06/16 15:28	12/06/16 23:48	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0070	0.00014	1	12/06/16 15:28	12/06/16 23:48	108-90-7	
Chloroethane	<0.00028	mg/kg	0.0070	0.00028	1	12/06/16 15:28	12/06/16 23:48	75-00-3	
Chloroform	<0.000092	mg/kg	0.0070	0.000092	1	12/06/16 15:28	12/06/16 23:48	67-66-3	
Chloromethane	<0.00018	mg/kg	0.0070	0.00018	1	12/06/16 15:28	12/06/16 23:48	74-87-3	
Dibromochloromethane	<0.00011	mg/kg	0.0070	0.00011	1	12/06/16 15:28	12/06/16 23:48	124-48-1	
Dichlorodifluoromethane	<0.00015	mg/kg	0.0070	0.00015	1	12/06/16 15:28	12/06/16 23:48	75-71-8	
Ethylbenzene	<0.000074	mg/kg	0.0070	0.000074	1	12/06/16 15:28	12/06/16 23:48	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0070	0.00021	1	12/06/16 15:28	12/06/16 23:48	87-68-3	
Methyl-tert-butyl ether	<0.000081	mg/kg	0.0070	0.000081	1	12/06/16 15:28	12/06/16 23:48	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0070	0.00016	1	12/06/16 15:28	12/06/16 23:48	75-09-2	
Naphthalene	0.00032J	mg/kg	0.0070	0.00012	1	12/06/16 15:28	12/06/16 23:48	91-20-3	
Styrene	<0.00012	mg/kg	0.0070	0.00012	1	12/06/16 15:28	12/06/16 23:48	100-42-5	
Tetrachloroethene	<0.000082	mg/kg	0.0070	0.000082	1	12/06/16 15:28	12/06/16 23:48	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.14	0.0019	1	12/06/16 15:28	12/06/16 23:48	109-99-9	
Toluene	<0.00013	mg/kg	0.0070	0.00013	1	12/06/16 15:28	12/06/16 23:48	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0070	0.00020	1	12/06/16 15:28	12/06/16 23:48	79-01-6	
Trichlorofluoromethane	<0.00022	mg/kg	0.0070	0.00022	1	12/06/16 15:28	12/06/16 23:48	75-69-4	
Vinyl chloride	<0.00021	mg/kg	0.0070	0.00021	1	12/06/16 15:28	12/06/16 23:48	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0070	0.00017	1	12/06/16 15:28	12/06/16 23:48	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0070	0.00016	1	12/06/16 15:28	12/06/16 23:48	10061-01-5	
m&p-Xylene	<0.0035	mg/kg	0.0070	0.0035	1	12/06/16 15:28	12/06/16 23:48	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0070	0.00011	1	12/06/16 15:28	12/06/16 23:48	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-20 **Lab ID: 1279470034** Collected: 11/21/16 10:22 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00018	mg/kg	0.0070	0.00018	1	12/06/16 15:28	12/06/16 23:48	156-60-5	
trans-1,3-Dichloropropene	<0.00016	mg/kg	0.0070	0.00016	1	12/06/16 15:28	12/06/16 23:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	70-130		1	12/06/16 15:28	12/06/16 23:48	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1	12/06/16 15:28	12/06/16 23:48	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1	12/06/16 15:28	12/06/16 23:48	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	30.9	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-23 Lab ID: 1279470035 Collected: 11/21/16 10:40 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0071	0.00016	1	12/06/16 15:28	12/07/16 00:07	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0036	mg/kg	0.0071	0.0036	1	12/06/16 15:28	12/07/16 00:07	79-34-5	
1,1,2-Trichloroethane	<0.00020	mg/kg	0.0071	0.00020	1	12/06/16 15:28	12/07/16 00:07	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0071	0.00020	1	12/06/16 15:28	12/07/16 00:07	76-13-1	
1,1-Dichloroethane	<0.00016	mg/kg	0.0071	0.00016	1	12/06/16 15:28	12/07/16 00:07	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0071	0.00019	1	12/06/16 15:28	12/07/16 00:07	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0071	0.00017	1	12/06/16 15:28	12/07/16 00:07	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0071	0.00015	1	12/06/16 15:28	12/07/16 00:07	95-63-6	
1,2-Dibromoethane (EDB)	<0.00010	mg/kg	0.0071	0.00010	1	12/06/16 15:28	12/07/16 00:07	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0071	0.00010	1	12/06/16 15:28	12/07/16 00:07	95-50-1	
1,2-Dichloroethane	<0.0036	mg/kg	0.0071	0.0036	1	12/06/16 15:28	12/07/16 00:07	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0071	0.00012	1	12/06/16 15:28	12/07/16 00:07	108-67-8	
1,3-Dichlorobenzene	<0.000075	mg/kg	0.0071	0.000075	1	12/06/16 15:28	12/07/16 00:07	541-73-1	
1,4-Dichlorobenzene	<0.00020	mg/kg	0.0071	0.00020	1	12/06/16 15:28	12/07/16 00:07	106-46-7	
2-Butanone (MEK)	<0.0033	mg/kg	0.071	0.0033	1	12/06/16 15:28	12/07/16 00:07	78-93-3	
2-Hexanone	<0.00072	mg/kg	0.071	0.00072	1	12/06/16 15:28	12/07/16 00:07	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00055	mg/kg	0.071	0.00055	1	12/06/16 15:28	12/07/16 00:07	108-10-1	
Acetone	<0.00079	mg/kg	0.071	0.00079	1	12/06/16 15:28	12/07/16 00:07	67-64-1	
Benzene	<0.00011	mg/kg	0.0071	0.00011	1	12/06/16 15:28	12/07/16 00:07	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0071	0.00018	1	12/06/16 15:28	12/07/16 00:07	75-27-4	
Bromoform	<0.00030	mg/kg	0.0071	0.00030	1	12/06/16 15:28	12/07/16 00:07	75-25-2	
Bromomethane	<0.00024	mg/kg	0.028	0.00024	1	12/06/16 15:28	12/07/16 00:07	74-83-9	
Carbon tetrachloride	<0.00024	mg/kg	0.0071	0.00024	1	12/06/16 15:28	12/07/16 00:07	56-23-5	
Chlorobenzene	<0.00014	mg/kg	0.0071	0.00014	1	12/06/16 15:28	12/07/16 00:07	108-90-7	
Chloroethane	<0.00029	mg/kg	0.0071	0.00029	1	12/06/16 15:28	12/07/16 00:07	75-00-3	
Chloroform	<0.000094	mg/kg	0.0071	0.000094	1	12/06/16 15:28	12/07/16 00:07	67-66-3	
Chloromethane	<0.00018	mg/kg	0.0071	0.00018	1	12/06/16 15:28	12/07/16 00:07	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0071	0.00012	1	12/06/16 15:28	12/07/16 00:07	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0071	0.00016	1	12/06/16 15:28	12/07/16 00:07	75-71-8	
Ethylbenzene	<0.000075	mg/kg	0.0071	0.000075	1	12/06/16 15:28	12/07/16 00:07	100-41-4	
Hexachloro-1,3-butadiene	<0.00021	mg/kg	0.0071	0.00021	1	12/06/16 15:28	12/07/16 00:07	87-68-3	
Methyl-tert-butyl ether	<0.000082	mg/kg	0.0071	0.000082	1	12/06/16 15:28	12/07/16 00:07	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0071	0.00016	1	12/06/16 15:28	12/07/16 00:07	75-09-2	
Naphthalene	0.00028J	mg/kg	0.0071	0.00012	1	12/06/16 15:28	12/07/16 00:07	91-20-3	
Styrene	<0.00012	mg/kg	0.0071	0.00012	1	12/06/16 15:28	12/07/16 00:07	100-42-5	
Tetrachloroethene	<0.000083	mg/kg	0.0071	0.000083	1	12/06/16 15:28	12/07/16 00:07	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.14	0.0019	1	12/06/16 15:28	12/07/16 00:07	109-99-9	
Toluene	<0.00013	mg/kg	0.0071	0.00013	1	12/06/16 15:28	12/07/16 00:07	108-88-3	
Trichloroethene	<0.00020	mg/kg	0.0071	0.00020	1	12/06/16 15:28	12/07/16 00:07	79-01-6	
Trichlorofluoromethane	<0.00022	mg/kg	0.0071	0.00022	1	12/06/16 15:28	12/07/16 00:07	75-69-4	
Vinyl chloride	<0.00021	mg/kg	0.0071	0.00021	1	12/06/16 15:28	12/07/16 00:07	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0071	0.00017	1	12/06/16 15:28	12/07/16 00:07	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0071	0.00016	1	12/06/16 15:28	12/07/16 00:07	10061-01-5	
m&p-Xylene	<0.0036	mg/kg	0.0071	0.0036	1	12/06/16 15:28	12/07/16 00:07	179601-23-1	
o-Xylene	<0.00011	mg/kg	0.0071	0.00011	1	12/06/16 15:28	12/07/16 00:07	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB32-SS-23 **Lab ID: 1279470035** Collected: 11/21/16 10:40 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0071	0.00019	1	12/06/16 15:28	12/07/16 00:07	156-60-5	
trans-1,3-Dichloropropene	<0.00016	mg/kg	0.0071	0.00016	1	12/06/16 15:28	12/07/16 00:07	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	70-130		1	12/06/16 15:28	12/07/16 00:07	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 00:07	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1	12/06/16 15:28	12/07/16 00:07	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	30.3	%	0.10	0.10	1		11/30/16 08:31		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-5 Lab ID: 1279470036 Collected: 11/21/16 11:21 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00014	mg/kg	0.0062	0.00014	1	12/06/16 15:28	12/07/16 00:27	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0031	mg/kg	0.0062	0.0031	1	12/06/16 15:28	12/07/16 00:27	79-34-5	
1,1,2-Trichloroethane	<0.00018	mg/kg	0.0062	0.00018	1	12/06/16 15:28	12/07/16 00:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00017	mg/kg	0.0062	0.00017	1	12/06/16 15:28	12/07/16 00:27	76-13-1	
1,1-Dichloroethane	<0.00014	mg/kg	0.0062	0.00014	1	12/06/16 15:28	12/07/16 00:27	75-34-3	
1,1-Dichloroethene	<0.00017	mg/kg	0.0062	0.00017	1	12/06/16 15:28	12/07/16 00:27	75-35-4	
1,2,4-Trichlorobenzene	<0.00015	mg/kg	0.0062	0.00015	1	12/06/16 15:28	12/07/16 00:27	120-82-1	
1,2,4-Trimethylbenzene	<0.00013	mg/kg	0.0062	0.00013	1	12/06/16 15:28	12/07/16 00:27	95-63-6	
1,2-Dibromoethane (EDB)	<0.000091	mg/kg	0.0062	0.000091	1	12/06/16 15:28	12/07/16 00:27	106-93-4	
1,2-Dichlorobenzene	<0.000088	mg/kg	0.0062	0.000088	1	12/06/16 15:28	12/07/16 00:27	95-50-1	
1,2-Dichloroethane	<0.0031	mg/kg	0.0062	0.0031	1	12/06/16 15:28	12/07/16 00:27	107-06-2	
1,3,5-Trimethylbenzene	<0.00010	mg/kg	0.0062	0.00010	1	12/06/16 15:28	12/07/16 00:27	108-67-8	
1,3-Dichlorobenzene	<0.000065	mg/kg	0.0062	0.000065	1	12/06/16 15:28	12/07/16 00:27	541-73-1	
1,4-Dichlorobenzene	<0.00018	mg/kg	0.0062	0.00018	1	12/06/16 15:28	12/07/16 00:27	106-46-7	
2-Butanone (MEK)	<0.0029	mg/kg	0.062	0.0029	1	12/06/16 15:28	12/07/16 00:27	78-93-3	
2-Hexanone	<0.00062	mg/kg	0.062	0.00062	1	12/06/16 15:28	12/07/16 00:27	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00048	mg/kg	0.062	0.00048	1	12/06/16 15:28	12/07/16 00:27	108-10-1	
Acetone	<0.00069	mg/kg	0.062	0.00069	1	12/06/16 15:28	12/07/16 00:27	67-64-1	
Benzene	<0.000094	mg/kg	0.0062	0.000094	1	12/06/16 15:28	12/07/16 00:27	71-43-2	
Bromodichloromethane	<0.00015	mg/kg	0.0062	0.00015	1	12/06/16 15:28	12/07/16 00:27	75-27-4	
Bromoform	<0.00026	mg/kg	0.0062	0.00026	1	12/06/16 15:28	12/07/16 00:27	75-25-2	
Bromomethane	<0.00021	mg/kg	0.025	0.00021	1	12/06/16 15:28	12/07/16 00:27	74-83-9	
Carbon tetrachloride	<0.00021	mg/kg	0.0062	0.00021	1	12/06/16 15:28	12/07/16 00:27	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0062	0.00012	1	12/06/16 15:28	12/07/16 00:27	108-90-7	
Chloroethane	<0.00025	mg/kg	0.0062	0.00025	1	12/06/16 15:28	12/07/16 00:27	75-00-3	
Chloroform	<0.000082	mg/kg	0.0062	0.000082	1	12/06/16 15:28	12/07/16 00:27	67-66-3	
Chloromethane	<0.00016	mg/kg	0.0062	0.00016	1	12/06/16 15:28	12/07/16 00:27	74-87-3	
Dibromochloromethane	<0.00010	mg/kg	0.0062	0.00010	1	12/06/16 15:28	12/07/16 00:27	124-48-1	
Dichlorodifluoromethane	<0.00014	mg/kg	0.0062	0.00014	1	12/06/16 15:28	12/07/16 00:27	75-71-8	
Ethylbenzene	<0.000066	mg/kg	0.0062	0.000066	1	12/06/16 15:28	12/07/16 00:27	100-41-4	
Hexachloro-1,3-butadiene	<0.00018	mg/kg	0.0062	0.00018	1	12/06/16 15:28	12/07/16 00:27	87-68-3	
Methyl-tert-butyl ether	<0.000071	mg/kg	0.0062	0.000071	1	12/06/16 15:28	12/07/16 00:27	1634-04-4	
Methylene Chloride	<0.00014	mg/kg	0.0062	0.00014	1	12/06/16 15:28	12/07/16 00:27	75-09-2	
Naphthalene	<0.00011	mg/kg	0.0062	0.00011	1	12/06/16 15:28	12/07/16 00:27	91-20-3	
Styrene	<0.00011	mg/kg	0.0062	0.00011	1	12/06/16 15:28	12/07/16 00:27	100-42-5	
Tetrachloroethene	<0.000073	mg/kg	0.0062	0.000073	1	12/06/16 15:28	12/07/16 00:27	127-18-4	
Tetrahydrofuran	<0.0016	mg/kg	0.12	0.0016	1	12/06/16 15:28	12/07/16 00:27	109-99-9	
Toluene	<0.00011	mg/kg	0.0062	0.00011	1	12/06/16 15:28	12/07/16 00:27	108-88-3	
Trichloroethene	<0.00018	mg/kg	0.0062	0.00018	1	12/06/16 15:28	12/07/16 00:27	79-01-6	
Trichlorofluoromethane	<0.00020	mg/kg	0.0062	0.00020	1	12/06/16 15:28	12/07/16 00:27	75-69-4	
Vinyl chloride	<0.00019	mg/kg	0.0062	0.00019	1	12/06/16 15:28	12/07/16 00:27	75-01-4	
cis-1,2-Dichloroethene	<0.00015	mg/kg	0.0062	0.00015	1	12/06/16 15:28	12/07/16 00:27	156-59-2	
cis-1,3-Dichloropropene	<0.00014	mg/kg	0.0062	0.00014	1	12/06/16 15:28	12/07/16 00:27	10061-01-5	
m&p-Xylene	<0.0031	mg/kg	0.0062	0.0031	1	12/06/16 15:28	12/07/16 00:27	179601-23-1	
o-Xylene	<0.000099	mg/kg	0.0062	0.000099	1	12/06/16 15:28	12/07/16 00:27	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-5 **Lab ID: 1279470036** Collected: 11/21/16 11:21 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00016	mg/kg	0.0062	0.00016	1	12/06/16 15:28	12/07/16 00:27	156-60-5	
trans-1,3-Dichloropropene	<0.00014	mg/kg	0.0062	0.00014	1	12/06/16 15:28	12/07/16 00:27	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 00:27	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 00:27	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 00:27	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	20.4	%	0.10	0.10	1		11/30/16 08:28		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: **SB33-SS-10** Lab ID: **1279470037** Collected: 11/21/16 11:34 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
1,1,1-Trichloroethane	<0.00013	mg/kg	0.0057	0.00013	1	12/06/16 15:28	12/07/16 00:47	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0029	mg/kg	0.0057	0.0029	1	12/06/16 15:28	12/07/16 00:47	79-34-5	
1,1,2-Trichloroethane	<0.00016	mg/kg	0.0057	0.00016	1	12/06/16 15:28	12/07/16 00:47	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00016	mg/kg	0.0057	0.00016	1	12/06/16 15:28	12/07/16 00:47	76-13-1	
1,1-Dichloroethane	<0.00013	mg/kg	0.0057	0.00013	1	12/06/16 15:28	12/07/16 00:47	75-34-3	
1,1-Dichloroethene	<0.00015	mg/kg	0.0057	0.00015	1	12/06/16 15:28	12/07/16 00:47	75-35-4	
1,2,4-Trichlorobenzene	<0.00014	mg/kg	0.0057	0.00014	1	12/06/16 15:28	12/07/16 00:47	120-82-1	
1,2,4-Trimethylbenzene	<0.00012	mg/kg	0.0057	0.00012	1	12/06/16 15:28	12/07/16 00:47	95-63-6	
1,2-Dibromoethane (EDB)	<0.000084	mg/kg	0.0057	0.000084	1	12/06/16 15:28	12/07/16 00:47	106-93-4	
1,2-Dichlorobenzene	<0.000081	mg/kg	0.0057	0.000081	1	12/06/16 15:28	12/07/16 00:47	95-50-1	
1,2-Dichloroethane	<0.0029	mg/kg	0.0057	0.0029	1	12/06/16 15:28	12/07/16 00:47	107-06-2	
1,3,5-Trimethylbenzene	<0.000096	mg/kg	0.0057	0.000096	1	12/06/16 15:28	12/07/16 00:47	108-67-8	
1,3-Dichlorobenzene	<0.000060	mg/kg	0.0057	0.000060	1	12/06/16 15:28	12/07/16 00:47	541-73-1	
1,4-Dichlorobenzene	<0.00016	mg/kg	0.0057	0.00016	1	12/06/16 15:28	12/07/16 00:47	106-46-7	
2-Butanone (MEK)	<0.0027	mg/kg	0.057	0.0027	1	12/06/16 15:28	12/07/16 00:47	78-93-3	
2-Hexanone	<0.00058	mg/kg	0.057	0.00058	1	12/06/16 15:28	12/07/16 00:47	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00045	mg/kg	0.057	0.00045	1	12/06/16 15:28	12/07/16 00:47	108-10-1	
Acetone	<0.00063	mg/kg	0.057	0.00063	1	12/06/16 15:28	12/07/16 00:47	67-64-1	
Benzene	<0.000087	mg/kg	0.0057	0.000087	1	12/06/16 15:28	12/07/16 00:47	71-43-2	
Bromodichloromethane	<0.00014	mg/kg	0.0057	0.00014	1	12/06/16 15:28	12/07/16 00:47	75-27-4	
Bromoform	<0.00024	mg/kg	0.0057	0.00024	1	12/06/16 15:28	12/07/16 00:47	75-25-2	
Bromomethane	<0.00019	mg/kg	0.023	0.00019	1	12/06/16 15:28	12/07/16 00:47	74-83-9	
Carbon tetrachloride	<0.00020	mg/kg	0.0057	0.00020	1	12/06/16 15:28	12/07/16 00:47	56-23-5	
Chlorobenzene	<0.00012	mg/kg	0.0057	0.00012	1	12/06/16 15:28	12/07/16 00:47	108-90-7	
Chloroethane	<0.00023	mg/kg	0.0057	0.00023	1	12/06/16 15:28	12/07/16 00:47	75-00-3	
Chloroform	<0.000076	mg/kg	0.0057	0.000076	1	12/06/16 15:28	12/07/16 00:47	67-66-3	
Chloromethane	<0.00015	mg/kg	0.0057	0.00015	1	12/06/16 15:28	12/07/16 00:47	74-87-3	
Dibromochloromethane	<0.000093	mg/kg	0.0057	0.000093	1	12/06/16 15:28	12/07/16 00:47	124-48-1	
Dichlorodifluoromethane	<0.00013	mg/kg	0.0057	0.00013	1	12/06/16 15:28	12/07/16 00:47	75-71-8	
Ethylbenzene	<0.000061	mg/kg	0.0057	0.000061	1	12/06/16 15:28	12/07/16 00:47	100-41-4	
Hexachloro-1,3-butadiene	<0.00017	mg/kg	0.0057	0.00017	1	12/06/16 15:28	12/07/16 00:47	87-68-3	
Methyl-tert-butyl ether	<0.000066	mg/kg	0.0057	0.000066	1	12/06/16 15:28	12/07/16 00:47	1634-04-4	
Methylene Chloride	<0.00013	mg/kg	0.0057	0.00013	1	12/06/16 15:28	12/07/16 00:47	75-09-2	
Naphthalene	0.00016J	mg/kg	0.0057	0.00010	1	12/06/16 15:28	12/07/16 00:47	91-20-3	
Styrene	<0.000099	mg/kg	0.0057	0.000099	1	12/06/16 15:28	12/07/16 00:47	100-42-5	
Tetrachloroethene	<0.000067	mg/kg	0.0057	0.000067	1	12/06/16 15:28	12/07/16 00:47	127-18-4	
Tetrahydrofuran	<0.0015	mg/kg	0.11	0.0015	1	12/06/16 15:28	12/07/16 00:47	109-99-9	
Toluene	<0.00010	mg/kg	0.0057	0.00010	1	12/06/16 15:28	12/07/16 00:47	108-88-3	
Trichloroethene	<0.00016	mg/kg	0.0057	0.00016	1	12/06/16 15:28	12/07/16 00:47	79-01-6	
Trichlorofluoromethane	<0.00018	mg/kg	0.0057	0.00018	1	12/06/16 15:28	12/07/16 00:47	75-69-4	
Vinyl chloride	<0.00017	mg/kg	0.0057	0.00017	1	12/06/16 15:28	12/07/16 00:47	75-01-4	
cis-1,2-Dichloroethene	<0.00014	mg/kg	0.0057	0.00014	1	12/06/16 15:28	12/07/16 00:47	156-59-2	
cis-1,3-Dichloropropene	<0.00013	mg/kg	0.0057	0.00013	1	12/06/16 15:28	12/07/16 00:47	10061-01-5	
m&p-Xylene	<0.0029	mg/kg	0.0057	0.0029	1	12/06/16 15:28	12/07/16 00:47	179601-23-1	
o-Xylene	<0.000091	mg/kg	0.0057	0.000091	1	12/06/16 15:28	12/07/16 00:47	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-10 **Lab ID: 1279470037** Collected: 11/21/16 11:34 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00015	mg/kg	0.0057	0.00015	1	12/06/16 15:28	12/07/16 00:47	156-60-5	
trans-1,3-Dichloropropene	<0.00013	mg/kg	0.0057	0.00013	1	12/06/16 15:28	12/07/16 00:47	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1	12/06/16 15:28	12/07/16 00:47	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 00:47	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1	12/06/16 15:28	12/07/16 00:47	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	14.1	%	0.10	0.10	1		11/30/16 08:30		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-15 Lab ID: 1279470038 Collected: 11/21/16 11:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00016	mg/kg	0.0072	0.00016	1	12/06/16 15:28	12/07/16 01:07	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0036	mg/kg	0.0072	0.0036	1	12/06/16 15:28	12/07/16 01:07	79-34-5	
1,1,2-Trichloroethane	<0.00021	mg/kg	0.0072	0.00021	1	12/06/16 15:28	12/07/16 01:07	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00020	mg/kg	0.0072	0.00020	1	12/06/16 15:28	12/07/16 01:07	76-13-1	
1,1-Dichloroethane	<0.00017	mg/kg	0.0072	0.00017	1	12/06/16 15:28	12/07/16 01:07	75-34-3	
1,1-Dichloroethene	<0.00019	mg/kg	0.0072	0.00019	1	12/06/16 15:28	12/07/16 01:07	75-35-4	
1,2,4-Trichlorobenzene	<0.00017	mg/kg	0.0072	0.00017	1	12/06/16 15:28	12/07/16 01:07	120-82-1	
1,2,4-Trimethylbenzene	<0.00015	mg/kg	0.0072	0.00015	1	12/06/16 15:28	12/07/16 01:07	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0072	0.00011	1	12/06/16 15:28	12/07/16 01:07	106-93-4	
1,2-Dichlorobenzene	<0.00010	mg/kg	0.0072	0.00010	1	12/06/16 15:28	12/07/16 01:07	95-50-1	
1,2-Dichloroethane	<0.0036	mg/kg	0.0072	0.0036	1	12/06/16 15:28	12/07/16 01:07	107-06-2	
1,3,5-Trimethylbenzene	<0.00012	mg/kg	0.0072	0.00012	1	12/06/16 15:28	12/07/16 01:07	108-67-8	
1,3-Dichlorobenzene	<0.000076	mg/kg	0.0072	0.000076	1	12/06/16 15:28	12/07/16 01:07	541-73-1	
1,4-Dichlorobenzene	<0.00021	mg/kg	0.0072	0.00021	1	12/06/16 15:28	12/07/16 01:07	106-46-7	
2-Butanone (MEK)	<0.0034	mg/kg	0.072	0.0034	1	12/06/16 15:28	12/07/16 01:07	78-93-3	
2-Hexanone	<0.00073	mg/kg	0.072	0.00073	1	12/06/16 15:28	12/07/16 01:07	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00056	mg/kg	0.072	0.00056	1	12/06/16 15:28	12/07/16 01:07	108-10-1	
Acetone	<0.00080	mg/kg	0.072	0.00080	1	12/06/16 15:28	12/07/16 01:07	67-64-1	
Benzene	<0.00011	mg/kg	0.0072	0.00011	1	12/06/16 15:28	12/07/16 01:07	71-43-2	
Bromodichloromethane	<0.00018	mg/kg	0.0072	0.00018	1	12/06/16 15:28	12/07/16 01:07	75-27-4	
Bromoform	<0.00031	mg/kg	0.0072	0.00031	1	12/06/16 15:28	12/07/16 01:07	75-25-2	
Bromomethane	<0.00024	mg/kg	0.029	0.00024	1	12/06/16 15:28	12/07/16 01:07	74-83-9	
Carbon tetrachloride	<0.00025	mg/kg	0.0072	0.00025	1	12/06/16 15:28	12/07/16 01:07	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0072	0.00015	1	12/06/16 15:28	12/07/16 01:07	108-90-7	
Chloroethane	<0.00029	mg/kg	0.0072	0.00029	1	12/06/16 15:28	12/07/16 01:07	75-00-3	
Chloroform	<0.000095	mg/kg	0.0072	0.000095	1	12/06/16 15:28	12/07/16 01:07	67-66-3	
Chloromethane	<0.00019	mg/kg	0.0072	0.00019	1	12/06/16 15:28	12/07/16 01:07	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0072	0.00012	1	12/06/16 15:28	12/07/16 01:07	124-48-1	
Dichlorodifluoromethane	<0.00016	mg/kg	0.0072	0.00016	1	12/06/16 15:28	12/07/16 01:07	75-71-8	
Ethylbenzene	<0.000077	mg/kg	0.0072	0.000077	1	12/06/16 15:28	12/07/16 01:07	100-41-4	
Hexachloro-1,3-butadiene	<0.00022	mg/kg	0.0072	0.00022	1	12/06/16 15:28	12/07/16 01:07	87-68-3	
Methyl-tert-butyl ether	<0.000083	mg/kg	0.0072	0.000083	1	12/06/16 15:28	12/07/16 01:07	1634-04-4	
Methylene Chloride	<0.00016	mg/kg	0.0072	0.00016	1	12/06/16 15:28	12/07/16 01:07	75-09-2	
Naphthalene	0.00021J	mg/kg	0.0072	0.00013	1	12/06/16 15:28	12/07/16 01:07	91-20-3	
Styrene	<0.00013	mg/kg	0.0072	0.00013	1	12/06/16 15:28	12/07/16 01:07	100-42-5	
Tetrachloroethene	<0.000085	mg/kg	0.0072	0.000085	1	12/06/16 15:28	12/07/16 01:07	127-18-4	
Tetrahydrofuran	<0.0019	mg/kg	0.14	0.0019	1	12/06/16 15:28	12/07/16 01:07	109-99-9	
Toluene	<0.00013	mg/kg	0.0072	0.00013	1	12/06/16 15:28	12/07/16 01:07	108-88-3	
Trichloroethene	<0.00021	mg/kg	0.0072	0.00021	1	12/06/16 15:28	12/07/16 01:07	79-01-6	
Trichlorofluoromethane	<0.00023	mg/kg	0.0072	0.00023	1	12/06/16 15:28	12/07/16 01:07	75-69-4	
Vinyl chloride	<0.00022	mg/kg	0.0072	0.00022	1	12/06/16 15:28	12/07/16 01:07	75-01-4	
cis-1,2-Dichloroethene	<0.00017	mg/kg	0.0072	0.00017	1	12/06/16 15:28	12/07/16 01:07	156-59-2	
cis-1,3-Dichloropropene	<0.00016	mg/kg	0.0072	0.00016	1	12/06/16 15:28	12/07/16 01:07	10061-01-5	
m&p-Xylene	<0.0036	mg/kg	0.0072	0.0036	1	12/06/16 15:28	12/07/16 01:07	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0072	0.00012	1	12/06/16 15:28	12/07/16 01:07	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-15 **Lab ID: 1279470038** Collected: 11/21/16 11:50 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
trans-1,2-Dichloroethene	<0.00019	mg/kg	0.0072	0.00019	1	12/06/16 15:28	12/07/16 01:07	156-60-5	
trans-1,3-Dichloropropene	<0.00017	mg/kg	0.0072	0.00017	1	12/06/16 15:28	12/07/16 01:07	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/06/16 15:28	12/07/16 01:07	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 01:07	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1	12/06/16 15:28	12/07/16 01:07	460-00-4	
Dry Weight, Davis		Analytical Method: ASTM D 2974-13 (2013)							
Percent Moisture	31.2	%	0.10	0.10	1		11/30/16 08:30		

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: TRIP BLANK 1-112116 Lab ID: 1279470039 Collected: 11/21/16 08:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:06	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0050	mg/kg	0.25	0.0050	1	12/02/16 15:28	12/02/16 20:06	79-34-5	
1,1,2-Trichloroethane	<0.0065	mg/kg	0.25	0.0065	1	12/02/16 15:28	12/02/16 20:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0083	mg/kg	0.25	0.0083	1	12/02/16 15:28	12/02/16 20:06	76-13-1	
1,1-Dichloroethane	<0.0052	mg/kg	0.25	0.0052	1	12/02/16 15:28	12/02/16 20:06	75-34-3	
1,1-Dichloroethene	<0.0075	mg/kg	0.25	0.0075	1	12/02/16 15:28	12/02/16 20:06	75-35-4	
1,2,4-Trichlorobenzene	<0.0049	mg/kg	0.25	0.0049	1	12/02/16 15:28	12/02/16 20:06	120-82-1	
1,2,4-Trimethylbenzene	<0.0028	mg/kg	0.25	0.0028	1	12/02/16 15:28	12/02/16 20:06	95-63-6	
1,2-Dibromoethane (EDB)	<0.0062	mg/kg	0.25	0.0062	1	12/02/16 15:28	12/02/16 20:06	106-93-4	
1,2-Dichlorobenzene	<0.0027	mg/kg	0.25	0.0027	1	12/02/16 15:28	12/02/16 20:06	95-50-1	
1,2-Dichloroethane	<0.0033	mg/kg	0.25	0.0033	1	12/02/16 15:28	12/02/16 20:06	107-06-2	
1,3,5-Trimethylbenzene	<0.12	mg/kg	0.25	0.12	1	12/02/16 15:28	12/02/16 20:06	108-67-8	
1,3-Dichlorobenzene	<0.0046	mg/kg	0.25	0.0046	1	12/02/16 15:28	12/02/16 20:06	541-73-1	
1,4-Dichlorobenzene	<0.0044	mg/kg	0.25	0.0044	1	12/02/16 15:28	12/02/16 20:06	106-46-7	
2-Butanone (MEK)	<0.032	mg/kg	2.5	0.032	1	12/02/16 15:28	12/02/16 20:06	78-93-3	
2-Hexanone	<0.028	mg/kg	2.5	0.028	1	12/02/16 15:28	12/02/16 20:06	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.017	mg/kg	2.5	0.017	1	12/02/16 15:28	12/02/16 20:06	108-10-1	
Acetone	<0.30	mg/kg	2.5	0.30	1	12/02/16 15:28	12/02/16 20:06	67-64-1	
Benzene	<0.0029	mg/kg	0.25	0.0029	1	12/02/16 15:28	12/02/16 20:06	71-43-2	
Bromodichloromethane	<0.0034	mg/kg	0.25	0.0034	1	12/02/16 15:28	12/02/16 20:06	75-27-4	
Bromoform	<0.0054	mg/kg	0.25	0.0054	1	12/02/16 15:28	12/02/16 20:06	75-25-2	
Bromomethane	<0.073	mg/kg	1.0	0.073	1	12/02/16 15:28	12/02/16 20:06	74-83-9	
Carbon tetrachloride	<0.0051	mg/kg	0.25	0.0051	1	12/02/16 15:28	12/02/16 20:06	56-23-5	
Chlorobenzene	<0.0043	mg/kg	0.25	0.0043	1	12/02/16 15:28	12/02/16 20:06	108-90-7	
Chloroethane	<0.077	mg/kg	0.25	0.077	1	12/02/16 15:28	12/02/16 20:06	75-00-3	
Chloroform	<0.0028	mg/kg	0.25	0.0028	1	12/02/16 15:28	12/02/16 20:06	67-66-3	
Chloromethane	<0.029	mg/kg	0.25	0.029	1	12/02/16 15:28	12/02/16 20:06	74-87-3	
Dibromochloromethane	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:06	124-48-1	
Dichlorodifluoromethane	<0.0047	mg/kg	0.25	0.0047	1	12/02/16 15:28	12/02/16 20:06	75-71-8	
Ethylbenzene	<0.0032	mg/kg	0.25	0.0032	1	12/02/16 15:28	12/02/16 20:06	100-41-4	
Hexachloro-1,3-butadiene	<0.0039	mg/kg	0.25	0.0039	1	12/02/16 15:28	12/02/16 20:06	87-68-3	
Methyl-tert-butyl ether	<0.0043	mg/kg	0.25	0.0043	1	12/02/16 15:28	12/02/16 20:06	1634-04-4	
Methylene Chloride	<0.0058	mg/kg	0.25	0.0058	1	12/02/16 15:28	12/02/16 20:06	75-09-2	
Naphthalene	<0.0041	mg/kg	0.25	0.0041	1	12/02/16 15:28	12/02/16 20:06	91-20-3	
Styrene	<0.0051	mg/kg	0.25	0.0051	1	12/02/16 15:28	12/02/16 20:06	100-42-5	
Tetrachloroethene	<0.0054	mg/kg	0.25	0.0054	1	12/02/16 15:28	12/02/16 20:06	127-18-4	
Tetrahydrofuran	<0.062	mg/kg	5.0	0.062	1	12/02/16 15:28	12/02/16 20:06	109-99-9	
Toluene	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:06	108-88-3	
Trichloroethene	<0.0042	mg/kg	0.25	0.0042	1	12/02/16 15:28	12/02/16 20:06	79-01-6	
Trichlorofluoromethane	0.031J	mg/kg	0.25	0.0081	1	12/02/16 15:28	12/02/16 20:06	75-69-4	
Vinyl chloride	<0.0045	mg/kg	0.25	0.0045	1	12/02/16 15:28	12/02/16 20:06	75-01-4	
cis-1,2-Dichloroethene	<0.0068	mg/kg	0.25	0.0068	1	12/02/16 15:28	12/02/16 20:06	156-59-2	
cis-1,3-Dichloropropene	<0.0045	mg/kg	0.25	0.0045	1	12/02/16 15:28	12/02/16 20:06	10061-01-5	
m&p-Xylene	<0.0059	mg/kg	0.25	0.0059	1	12/02/16 15:28	12/02/16 20:06	179601-23-1	
o-Xylene	<0.0037	mg/kg	0.25	0.0037	1	12/02/16 15:28	12/02/16 20:06	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: TRIP BLANK 1-112116 Lab ID: 1279470039 Collected: 11/21/16 08:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.0048	mg/kg	0.25	0.0048	1	12/02/16 15:28	12/02/16 20:06	156-60-5	
trans-1,3-Dichloropropene	<0.0034	mg/kg	0.25	0.0034	1	12/02/16 15:28	12/02/16 20:06	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/02/16 15:28	12/02/16 20:06	17060-07-0	
Toluene-d8 (S)	96	%	70-130		1	12/02/16 15:28	12/02/16 20:06	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1	12/02/16 15:28	12/02/16 20:06	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: TRIP BLANK 2-112116 Lab ID: 1279470040 Collected: 11/21/16 08:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0050	mg/kg	0.25	0.0050	1	12/02/16 15:28	12/02/16 20:26	79-34-5	
1,1,2-Trichloroethane	<0.0065	mg/kg	0.25	0.0065	1	12/02/16 15:28	12/02/16 20:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0083	mg/kg	0.25	0.0083	1	12/02/16 15:28	12/02/16 20:26	76-13-1	
1,1-Dichloroethane	<0.0052	mg/kg	0.25	0.0052	1	12/02/16 15:28	12/02/16 20:26	75-34-3	
1,1-Dichloroethene	<0.0075	mg/kg	0.25	0.0075	1	12/02/16 15:28	12/02/16 20:26	75-35-4	
1,2,4-Trichlorobenzene	<0.0049	mg/kg	0.25	0.0049	1	12/02/16 15:28	12/02/16 20:26	120-82-1	
1,2,4-Trimethylbenzene	<0.0028	mg/kg	0.25	0.0028	1	12/02/16 15:28	12/02/16 20:26	95-63-6	
1,2-Dibromoethane (EDB)	<0.0062	mg/kg	0.25	0.0062	1	12/02/16 15:28	12/02/16 20:26	106-93-4	
1,2-Dichlorobenzene	<0.0027	mg/kg	0.25	0.0027	1	12/02/16 15:28	12/02/16 20:26	95-50-1	
1,2-Dichloroethane	<0.0033	mg/kg	0.25	0.0033	1	12/02/16 15:28	12/02/16 20:26	107-06-2	
1,3,5-Trimethylbenzene	<0.12	mg/kg	0.25	0.12	1	12/02/16 15:28	12/02/16 20:26	108-67-8	
1,3-Dichlorobenzene	<0.0046	mg/kg	0.25	0.0046	1	12/02/16 15:28	12/02/16 20:26	541-73-1	
1,4-Dichlorobenzene	<0.0044	mg/kg	0.25	0.0044	1	12/02/16 15:28	12/02/16 20:26	106-46-7	
2-Butanone (MEK)	<0.032	mg/kg	2.5	0.032	1	12/02/16 15:28	12/02/16 20:26	78-93-3	
2-Hexanone	<0.028	mg/kg	2.5	0.028	1	12/02/16 15:28	12/02/16 20:26	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.017	mg/kg	2.5	0.017	1	12/02/16 15:28	12/02/16 20:26	108-10-1	
Acetone	<0.30	mg/kg	2.5	0.30	1	12/02/16 15:28	12/02/16 20:26	67-64-1	
Benzene	<0.0029	mg/kg	0.25	0.0029	1	12/02/16 15:28	12/02/16 20:26	71-43-2	
Bromodichloromethane	<0.0034	mg/kg	0.25	0.0034	1	12/02/16 15:28	12/02/16 20:26	75-27-4	
Bromoform	<0.0054	mg/kg	0.25	0.0054	1	12/02/16 15:28	12/02/16 20:26	75-25-2	
Bromomethane	<0.073	mg/kg	1.0	0.073	1	12/02/16 15:28	12/02/16 20:26	74-83-9	
Carbon tetrachloride	<0.0051	mg/kg	0.25	0.0051	1	12/02/16 15:28	12/02/16 20:26	56-23-5	
Chlorobenzene	<0.0043	mg/kg	0.25	0.0043	1	12/02/16 15:28	12/02/16 20:26	108-90-7	
Chloroethane	<0.0077	mg/kg	0.25	0.077	1	12/02/16 15:28	12/02/16 20:26	75-00-3	
Chloroform	<0.0028	mg/kg	0.25	0.0028	1	12/02/16 15:28	12/02/16 20:26	67-66-3	
Chloromethane	<0.029	mg/kg	0.25	0.029	1	12/02/16 15:28	12/02/16 20:26	74-87-3	
Dibromochloromethane	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:26	124-48-1	
Dichlorodifluoromethane	<0.0047	mg/kg	0.25	0.0047	1	12/02/16 15:28	12/02/16 20:26	75-71-8	
Ethylbenzene	<0.0032	mg/kg	0.25	0.0032	1	12/02/16 15:28	12/02/16 20:26	100-41-4	
Hexachloro-1,3-butadiene	<0.0039	mg/kg	0.25	0.0039	1	12/02/16 15:28	12/02/16 20:26	87-68-3	
Methyl-tert-butyl ether	<0.0043	mg/kg	0.25	0.0043	1	12/02/16 15:28	12/02/16 20:26	1634-04-4	
Methylene Chloride	<0.0058	mg/kg	0.25	0.0058	1	12/02/16 15:28	12/02/16 20:26	75-09-2	
Naphthalene	<0.0041	mg/kg	0.25	0.0041	1	12/02/16 15:28	12/02/16 20:26	91-20-3	
Styrene	<0.0051	mg/kg	0.25	0.0051	1	12/02/16 15:28	12/02/16 20:26	100-42-5	
Tetrachloroethene	<0.0054	mg/kg	0.25	0.0054	1	12/02/16 15:28	12/02/16 20:26	127-18-4	
Tetrahydrofuran	<0.062	mg/kg	5.0	0.062	1	12/02/16 15:28	12/02/16 20:26	109-99-9	
Toluene	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:26	108-88-3	
Trichloroethene	<0.0042	mg/kg	0.25	0.0042	1	12/02/16 15:28	12/02/16 20:26	79-01-6	
Trichlorofluoromethane	0.021J	mg/kg	0.25	0.0081	1	12/02/16 15:28	12/02/16 20:26	75-69-4	
Vinyl chloride	<0.0045	mg/kg	0.25	0.0045	1	12/02/16 15:28	12/02/16 20:26	75-01-4	
cis-1,2-Dichloroethene	<0.0068	mg/kg	0.25	0.0068	1	12/02/16 15:28	12/02/16 20:26	156-59-2	
cis-1,3-Dichloropropene	<0.0045	mg/kg	0.25	0.0045	1	12/02/16 15:28	12/02/16 20:26	10061-01-5	
m&p-Xylene	<0.0059	mg/kg	0.25	0.0059	1	12/02/16 15:28	12/02/16 20:26	179601-23-1	
o-Xylene	<0.0037	mg/kg	0.25	0.0037	1	12/02/16 15:28	12/02/16 20:26	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: TRIP BLANK 2-112116 Lab ID: 1279470040 Collected: 11/21/16 08:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.0048	mg/kg	0.25	0.0048	1	12/02/16 15:28	12/02/16 20:26	156-60-5	
trans-1,3-Dichloropropene	<0.0034	mg/kg	0.25	0.0034	1	12/02/16 15:28	12/02/16 20:26	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	70-130		1	12/02/16 15:28	12/02/16 20:26	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1	12/02/16 15:28	12/02/16 20:26	2037-26-5	
4-Bromofluorobenzene (S)	82	%	70-130		1	12/02/16 15:28	12/02/16 20:26	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: TRIP BLANK 3-112116 Lab ID: 1279470041 Collected: 11/21/16 08:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0050	mg/kg	0.25	0.0050	1	12/02/16 15:28	12/02/16 20:46	79-34-5	
1,1,2-Trichloroethane	<0.0065	mg/kg	0.25	0.0065	1	12/02/16 15:28	12/02/16 20:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.0083	mg/kg	0.25	0.0083	1	12/02/16 15:28	12/02/16 20:46	76-13-1	
1,1-Dichloroethane	<0.0052	mg/kg	0.25	0.0052	1	12/02/16 15:28	12/02/16 20:46	75-34-3	
1,1-Dichloroethene	<0.0075	mg/kg	0.25	0.0075	1	12/02/16 15:28	12/02/16 20:46	75-35-4	
1,2,4-Trichlorobenzene	<0.0049	mg/kg	0.25	0.0049	1	12/02/16 15:28	12/02/16 20:46	120-82-1	
1,2,4-Trimethylbenzene	<0.0028	mg/kg	0.25	0.0028	1	12/02/16 15:28	12/02/16 20:46	95-63-6	
1,2-Dibromoethane (EDB)	<0.0062	mg/kg	0.25	0.0062	1	12/02/16 15:28	12/02/16 20:46	106-93-4	
1,2-Dichlorobenzene	<0.0027	mg/kg	0.25	0.0027	1	12/02/16 15:28	12/02/16 20:46	95-50-1	
1,2-Dichloroethane	<0.0033	mg/kg	0.25	0.0033	1	12/02/16 15:28	12/02/16 20:46	107-06-2	
1,3,5-Trimethylbenzene	<0.12	mg/kg	0.25	0.12	1	12/02/16 15:28	12/02/16 20:46	108-67-8	
1,3-Dichlorobenzene	<0.0046	mg/kg	0.25	0.0046	1	12/02/16 15:28	12/02/16 20:46	541-73-1	
1,4-Dichlorobenzene	<0.0044	mg/kg	0.25	0.0044	1	12/02/16 15:28	12/02/16 20:46	106-46-7	
2-Butanone (MEK)	<0.032	mg/kg	2.5	0.032	1	12/02/16 15:28	12/02/16 20:46	78-93-3	
2-Hexanone	<0.028	mg/kg	2.5	0.028	1	12/02/16 15:28	12/02/16 20:46	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.017	mg/kg	2.5	0.017	1	12/02/16 15:28	12/02/16 20:46	108-10-1	
Acetone	<0.30	mg/kg	2.5	0.30	1	12/02/16 15:28	12/02/16 20:46	67-64-1	
Benzene	<0.0029	mg/kg	0.25	0.0029	1	12/02/16 15:28	12/02/16 20:46	71-43-2	
Bromodichloromethane	<0.0034	mg/kg	0.25	0.0034	1	12/02/16 15:28	12/02/16 20:46	75-27-4	
Bromoform	<0.0054	mg/kg	0.25	0.0054	1	12/02/16 15:28	12/02/16 20:46	75-25-2	
Bromomethane	<0.073	mg/kg	1.0	0.073	1	12/02/16 15:28	12/02/16 20:46	74-83-9	
Carbon tetrachloride	<0.0051	mg/kg	0.25	0.0051	1	12/02/16 15:28	12/02/16 20:46	56-23-5	
Chlorobenzene	<0.0043	mg/kg	0.25	0.0043	1	12/02/16 15:28	12/02/16 20:46	108-90-7	
Chloroethane	<0.077	mg/kg	0.25	0.077	1	12/02/16 15:28	12/02/16 20:46	75-00-3	
Chloroform	<0.0028	mg/kg	0.25	0.0028	1	12/02/16 15:28	12/02/16 20:46	67-66-3	
Chloromethane	<0.029	mg/kg	0.25	0.029	1	12/02/16 15:28	12/02/16 20:46	74-87-3	
Dibromochloromethane	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:46	124-48-1	
Dichlorodifluoromethane	<0.0047	mg/kg	0.25	0.0047	1	12/02/16 15:28	12/02/16 20:46	75-71-8	
Ethylbenzene	<0.0032	mg/kg	0.25	0.0032	1	12/02/16 15:28	12/02/16 20:46	100-41-4	
Hexachloro-1,3-butadiene	<0.0039	mg/kg	0.25	0.0039	1	12/02/16 15:28	12/02/16 20:46	87-68-3	
Methyl-tert-butyl ether	<0.0043	mg/kg	0.25	0.0043	1	12/02/16 15:28	12/02/16 20:46	1634-04-4	
Methylene Chloride	<0.0058	mg/kg	0.25	0.0058	1	12/02/16 15:28	12/02/16 20:46	75-09-2	
Naphthalene	<0.0041	mg/kg	0.25	0.0041	1	12/02/16 15:28	12/02/16 20:46	91-20-3	
Styrene	<0.0051	mg/kg	0.25	0.0051	1	12/02/16 15:28	12/02/16 20:46	100-42-5	
Tetrachloroethene	<0.0054	mg/kg	0.25	0.0054	1	12/02/16 15:28	12/02/16 20:46	127-18-4	
Tetrahydrofuran	<0.062	mg/kg	5.0	0.062	1	12/02/16 15:28	12/02/16 20:46	109-99-9	
Toluene	<0.0038	mg/kg	0.25	0.0038	1	12/02/16 15:28	12/02/16 20:46	108-88-3	
Trichloroethene	<0.0042	mg/kg	0.25	0.0042	1	12/02/16 15:28	12/02/16 20:46	79-01-6	
Trichlorofluoromethane	<0.0081	mg/kg	0.25	0.0081	1	12/02/16 15:28	12/02/16 20:46	75-69-4	
Vinyl chloride	<0.0045	mg/kg	0.25	0.0045	1	12/02/16 15:28	12/02/16 20:46	75-01-4	
cis-1,2-Dichloroethene	<0.0068	mg/kg	0.25	0.0068	1	12/02/16 15:28	12/02/16 20:46	156-59-2	
cis-1,3-Dichloropropene	<0.0045	mg/kg	0.25	0.0045	1	12/02/16 15:28	12/02/16 20:46	10061-01-5	
m&p-Xylene	<0.0059	mg/kg	0.25	0.0059	1	12/02/16 15:28	12/02/16 20:46	179601-23-1	
o-Xylene	<0.0037	mg/kg	0.25	0.0037	1	12/02/16 15:28	12/02/16 20:46	95-47-6	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: TRIP BLANK 3-112116 Lab ID: 1279470041 Collected: 11/21/16 08:00 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Med Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
trans-1,2-Dichloroethene	<0.0048	mg/kg	0.25	0.0048	1	12/02/16 15:28	12/02/16 20:46	156-60-5	
trans-1,3-Dichloropropene	<0.0034	mg/kg	0.25	0.0034	1	12/02/16 15:28	12/02/16 20:46	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	70-130		1	12/02/16 15:28	12/02/16 20:46	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1	12/02/16 15:28	12/02/16 20:46	2037-26-5	
4-Bromofluorobenzene (S)	84	%	70-130		1	12/02/16 15:28	12/02/16 20:46	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-17 Lab ID: 1279470042 Collected: 11/21/16 12:05 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil		Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low							
1,1,1-Trichloroethane	<0.00017	mg/kg	0.0077	0.00017	1	12/06/16 15:28	12/07/16 01:27	71-55-6	
1,1,2,2-Tetrachloroethane	<0.0038	mg/kg	0.0077	0.0038	1	12/06/16 15:28	12/07/16 01:27	79-34-5	
1,1,2-Trichloroethane	<0.00022	mg/kg	0.0077	0.00022	1	12/06/16 15:28	12/07/16 01:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.00021	mg/kg	0.0077	0.00021	1	12/06/16 15:28	12/07/16 01:27	76-13-1	
1,1-Dichloroethane	<0.00018	mg/kg	0.0077	0.00018	1	12/06/16 15:28	12/07/16 01:27	75-34-3	
1,1-Dichloroethene	<0.00021	mg/kg	0.0077	0.00021	1	12/06/16 15:28	12/07/16 01:27	75-35-4	
1,2,4-Trichlorobenzene	<0.00018	mg/kg	0.0077	0.00018	1	12/06/16 15:28	12/07/16 01:27	120-82-1	
1,2,4-Trimethylbenzene	<0.00016	mg/kg	0.0077	0.00016	1	12/06/16 15:28	12/07/16 01:27	95-63-6	
1,2-Dibromoethane (EDB)	<0.00011	mg/kg	0.0077	0.00011	1	12/06/16 15:28	12/07/16 01:27	106-93-4	
1,2-Dichlorobenzene	<0.00011	mg/kg	0.0077	0.00011	1	12/06/16 15:28	12/07/16 01:27	95-50-1	
1,2-Dichloroethane	<0.0038	mg/kg	0.0077	0.0038	1	12/06/16 15:28	12/07/16 01:27	107-06-2	
1,3,5-Trimethylbenzene	<0.00013	mg/kg	0.0077	0.00013	1	12/06/16 15:28	12/07/16 01:27	108-67-8	
1,3-Dichlorobenzene	<0.000080	mg/kg	0.0077	0.000080	1	12/06/16 15:28	12/07/16 01:27	541-73-1	
1,4-Dichlorobenzene	<0.00022	mg/kg	0.0077	0.00022	1	12/06/16 15:28	12/07/16 01:27	106-46-7	
2-Butanone (MEK)	<0.0036	mg/kg	0.077	0.0036	1	12/06/16 15:28	12/07/16 01:27	78-93-3	
2-Hexanone	<0.00077	mg/kg	0.077	0.00077	1	12/06/16 15:28	12/07/16 01:27	591-78-6	
4-Methyl-2-pentanone (MIBK)	<0.00060	mg/kg	0.077	0.00060	1	12/06/16 15:28	12/07/16 01:27	108-10-1	
Acetone	<0.00085	mg/kg	0.077	0.00085	1	12/06/16 15:28	12/07/16 01:27	67-64-1	
Benzene	<0.00012	mg/kg	0.0077	0.00012	1	12/06/16 15:28	12/07/16 01:27	71-43-2	
Bromodichloromethane	<0.00019	mg/kg	0.0077	0.00019	1	12/06/16 15:28	12/07/16 01:27	75-27-4	
Bromoform	<0.00032	mg/kg	0.0077	0.00032	1	12/06/16 15:28	12/07/16 01:27	75-25-2	
Bromomethane	<0.00026	mg/kg	0.031	0.00026	1	12/06/16 15:28	12/07/16 01:27	74-83-9	
Carbon tetrachloride	<0.00026	mg/kg	0.0077	0.00026	1	12/06/16 15:28	12/07/16 01:27	56-23-5	
Chlorobenzene	<0.00015	mg/kg	0.0077	0.00015	1	12/06/16 15:28	12/07/16 01:27	108-90-7	
Chloroethane	<0.00031	mg/kg	0.0077	0.00031	1	12/06/16 15:28	12/07/16 01:27	75-00-3	
Chloroform	<0.00010	mg/kg	0.0077	0.00010	1	12/06/16 15:28	12/07/16 01:27	67-66-3	
Chloromethane	<0.00020	mg/kg	0.0077	0.00020	1	12/06/16 15:28	12/07/16 01:27	74-87-3	
Dibromochloromethane	<0.00012	mg/kg	0.0077	0.00012	1	12/06/16 15:28	12/07/16 01:27	124-48-1	
Dichlorodifluoromethane	<0.00017	mg/kg	0.0077	0.00017	1	12/06/16 15:28	12/07/16 01:27	75-71-8	
Ethylbenzene	<0.000081	mg/kg	0.0077	0.000081	1	12/06/16 15:28	12/07/16 01:27	100-41-4	
Hexachloro-1,3-butadiene	<0.00023	mg/kg	0.0077	0.00023	1	12/06/16 15:28	12/07/16 01:27	87-68-3	
Methyl-tert-butyl ether	<0.000089	mg/kg	0.0077	0.000089	1	12/06/16 15:28	12/07/16 01:27	1634-04-4	
Methylene Chloride	<0.00017	mg/kg	0.0077	0.00017	1	12/06/16 15:28	12/07/16 01:27	75-09-2	
Naphthalene	<0.00013	mg/kg	0.0077	0.00013	1	12/06/16 15:28	12/07/16 01:27	91-20-3	
Styrene	<0.00013	mg/kg	0.0077	0.00013	1	12/06/16 15:28	12/07/16 01:27	100-42-5	
Tetrachloroethene	<0.000090	mg/kg	0.0077	0.000090	1	12/06/16 15:28	12/07/16 01:27	127-18-4	
Tetrahydrofuran	<0.0020	mg/kg	0.15	0.0020	1	12/06/16 15:28	12/07/16 01:27	109-99-9	
Toluene	<0.00014	mg/kg	0.0077	0.00014	1	12/06/16 15:28	12/07/16 01:27	108-88-3	
Trichloroethene	<0.00022	mg/kg	0.0077	0.00022	1	12/06/16 15:28	12/07/16 01:27	79-01-6	
Trichlorofluoromethane	<0.00024	mg/kg	0.0077	0.00024	1	12/06/16 15:28	12/07/16 01:27	75-69-4	
Vinyl chloride	<0.00023	mg/kg	0.0077	0.00023	1	12/06/16 15:28	12/07/16 01:27	75-01-4	
cis-1,2-Dichloroethene	<0.00019	mg/kg	0.0077	0.00019	1	12/06/16 15:28	12/07/16 01:27	156-59-2	
cis-1,3-Dichloropropene	<0.00017	mg/kg	0.0077	0.00017	1	12/06/16 15:28	12/07/16 01:27	10061-01-5	
m&p-Xylene	<0.0038	mg/kg	0.0077	0.0038	1	12/06/16 15:28	12/07/16 01:27	179601-23-1	
o-Xylene	<0.00012	mg/kg	0.0077	0.00012	1	12/06/16 15:28	12/07/16 01:27	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 1279470

Sample: SB33-SS-17 **Lab ID: 1279470042** Collected: 11/21/16 12:05 Received: 11/22/16 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Soil									
Analytical Method: EPA 8260B Preparation Method: EPA 5030 Low									
trans-1,2-Dichloroethene	<0.00020	mg/kg	0.0077	0.00020	1	12/06/16 15:28	12/07/16 01:27	156-60-5	
trans-1,3-Dichloropropene	<0.00018	mg/kg	0.0077	0.00018	1	12/06/16 15:28	12/07/16 01:27	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1	12/06/16 15:28	12/07/16 01:27	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1	12/06/16 15:28	12/07/16 01:27	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1	12/06/16 15:28	12/07/16 01:27	460-00-4	
Dry Weight, Davis									
Analytical Method: ASTM D 2974-13 (2013)									
Percent Moisture	36.5	%	0.10	0.10	1		11/30/16 08:30		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman
Pace Project No.: 1279470

QC Batch: 100982 Analysis Method: EPA 8260B
QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Low Soil
Associated Lab Samples: 1279470001, 1279470002, 1279470003, 1279470004, 1279470005, 1279470006, 1279470007, 1279470008

METHOD BLANK: 401418 Matrix: Solid
Associated Lab Samples: 1279470001, 1279470002, 1279470003, 1279470004, 1279470005, 1279470006, 1279470007, 1279470008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	<0.00011	0.0049	0.00011	11/29/16 15:58	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0025	0.0049	0.0025	11/29/16 15:58	
1,1,2-Trichloroethane	mg/kg	<0.00014	0.0049	0.00014	11/29/16 15:58	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00014	0.0049	0.00014	11/29/16 15:58	
1,1-Dichloroethane	mg/kg	<0.00011	0.0049	0.00011	11/29/16 15:58	
1,1-Dichloroethene	mg/kg	<0.00013	0.0049	0.00013	11/29/16 15:58	
1,2,4-Trichlorobenzene	mg/kg	<0.00012	0.0049	0.00012	11/29/16 15:58	
1,2,4-Trimethylbenzene	mg/kg	<0.00010	0.0049	0.00010	11/29/16 15:58	
1,2-Dibromoethane (EDB)	mg/kg	<0.000072	0.0049	0.000072	11/29/16 15:58	
1,2-Dichlorobenzene	mg/kg	<0.000070	0.0049	0.000070	11/29/16 15:58	
1,2-Dichloroethane	mg/kg	<0.0025	0.0049	0.0025	11/29/16 15:58	
1,3,5-Trimethylbenzene	mg/kg	<0.000083	0.0049	0.000083	11/29/16 15:58	
1,3-Dichlorobenzene	mg/kg	<0.000052	0.0049	0.000052	11/29/16 15:58	
1,4-Dichlorobenzene	mg/kg	<0.00014	0.0049	0.00014	11/29/16 15:58	
2-Butanone (MEK)	mg/kg	<0.0023	0.049	0.0023	11/29/16 15:58	
2-Hexanone	mg/kg	<0.00050	0.049	0.00050	11/29/16 15:58	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00038	0.049	0.00038	11/29/16 15:58	
Acetone	mg/kg	<0.00055	0.049	0.00055	11/29/16 15:58	
Benzene	mg/kg	<0.000075	0.0049	0.000075	11/29/16 15:58	
Bromodichloromethane	mg/kg	<0.00012	0.0049	0.00012	11/29/16 15:58	
Bromoform	mg/kg	<0.00021	0.0049	0.00021	11/29/16 15:58	
Bromomethane	mg/kg	<0.00016	0.020	0.00016	11/29/16 15:58	
Carbon tetrachloride	mg/kg	<0.00017	0.0049	0.00017	11/29/16 15:58	
Chlorobenzene	mg/kg	<0.000099	0.0049	0.000099	11/29/16 15:58	
Chloroethane	mg/kg	<0.00020	0.0049	0.00020	11/29/16 15:58	
Chloroform	mg/kg	<0.000065	0.0049	0.000065	11/29/16 15:58	
Chloromethane	mg/kg	<0.00013	0.0049	0.00013	11/29/16 15:58	
cis-1,2-Dichloroethene	mg/kg	<0.00012	0.0049	0.00012	11/29/16 15:58	
cis-1,3-Dichloropropene	mg/kg	<0.00011	0.0049	0.00011	11/29/16 15:58	
Dibromochloromethane	mg/kg	<0.000080	0.0049	0.000080	11/29/16 15:58	
Dichlorodifluoromethane	mg/kg	<0.00011	0.0049	0.00011	11/29/16 15:58	
Ethylbenzene	mg/kg	<0.000052	0.0049	0.000052	11/29/16 15:58	
Hexachloro-1,3-butadiene	mg/kg	<0.00015	0.0049	0.00015	11/29/16 15:58	
m&p-Xylene	mg/kg	<0.0025	0.0049	0.0025	11/29/16 15:58	
Methyl-tert-butyl ether	mg/kg	<0.000057	0.0049	0.000057	11/29/16 15:58	
Methylene Chloride	mg/kg	<0.00011	0.0049	0.00011	11/29/16 15:58	
Naphthalene	mg/kg	<0.000086	0.0049	0.000086	11/29/16 15:58	
o-Xylene	mg/kg	<0.000079	0.0049	0.000079	11/29/16 15:58	
Styrene	mg/kg	<0.000086	0.0049	0.000086	11/29/16 15:58	
Tetrachloroethene	mg/kg	<0.000058	0.0049	0.000058	11/29/16 15:58	
Tetrahydrofuran	mg/kg	<0.0013	0.098	0.0013	11/29/16 15:58	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

METHOD BLANK: 401418

Matrix: Solid

Associated Lab Samples: 1279470001, 1279470002, 1279470003, 1279470004, 1279470005, 1279470006, 1279470007, 1279470008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	<0.000090	0.0049	0.000090	11/29/16 15:58	
trans-1,2-Dichloroethene	mg/kg	<0.00013	0.0049	0.00013	11/29/16 15:58	
trans-1,3-Dichloropropene	mg/kg	<0.00011	0.0049	0.00011	11/29/16 15:58	
Trichloroethene	mg/kg	<0.00014	0.0049	0.00014	11/29/16 15:58	
Trichlorofluoromethane	mg/kg	<0.00016	0.0049	0.00016	11/29/16 15:58	
Vinyl chloride	mg/kg	<0.00015	0.0049	0.00015	11/29/16 15:58	
1,2-Dichloroethane-d4 (S)	%	106	70-130		11/29/16 15:58	
4-Bromofluorobenzene (S)	%	87	70-130		11/29/16 15:58	
Toluene-d8 (S)	%	97	70-130		11/29/16 15:58	

LABORATORY CONTROL SAMPLE & LCSD: 401416

401417

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	mg/kg	.04	0.036	0.035	90	88	71-125	3	25	
1,1,2,2-Tetrachloroethane	mg/kg	.04	0.033	0.031	84	80	75-125	7	25	
1,1,2-Trichloroethane	mg/kg	.04	0.038	0.037	97	94	74-125	5	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	.04	0.032	0.032	81	81	68-125	1	25	
1,1-Dichloroethane	mg/kg	.04	0.035	0.034	89	87	71-125	4	25	
1,1-Dichloroethene	mg/kg	.04	0.033	0.032	83	83	72-125	2	25	
1,2,4-Trichlorobenzene	mg/kg	.04	0.029	0.029	74	74	66-125	2	25	
1,2,4-Trimethylbenzene	mg/kg	.04	0.033	0.032	83	82	73-125	3	25	
1,2-Dibromoethane (EDB)	mg/kg	.04	0.036	0.035	91	88	73-125	4	25	
1,2-Dichlorobenzene	mg/kg	.04	0.033	0.032	83	82	72-125	3	25	
1,2-Dichloroethane	mg/kg	.04	0.034	0.032	86	82	67-125	6	25	
1,3,5-Trimethylbenzene	mg/kg	.04	0.033	0.032	83	83	74-125	2	25	
1,3-Dichlorobenzene	mg/kg	.04	0.029	0.029	74	74	72-125	1	25	
1,4-Dichlorobenzene	mg/kg	.04	0.033	0.032	83	82	69-125	2	25	
2-Butanone (MEK)	mg/kg	.2	0.19	0.15	94	79	63-134	19	25	
2-Hexanone	mg/kg	.2	0.22	0.19	111	96	70-130	17	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	.2	0.19	0.17	97	85	70-130	14	25	
Acetone	mg/kg	.2	0.17	0.14	88	73	70-130	20	25	
Benzene	mg/kg	.04	0.034	0.033	86	85	69-125	3	25	
Bromodichloromethane	mg/kg	.04	0.035	0.034	88	87	70-125	2	25	
Bromoform	mg/kg	.04	0.033	0.032	84	83	68-125	3	25	
Bromomethane	mg/kg	.04	0.038	0.037	95	96	36-138	1	25	
Carbon tetrachloride	mg/kg	.04	0.035	0.034	87	88	69-126	0	25	
Chlorobenzene	mg/kg	.04	0.032	0.032	82	82	73-125	1	25	
Chloroethane	mg/kg	.04	0.043	0.041	109	106	30-150	4	25	
Chloroform	mg/kg	.04	0.035	0.034	88	86	71-125	4	25	
Chloromethane	mg/kg	.04	0.029	0.029	74	74	53-125	1	25	
cis-1,2-Dichloroethene	mg/kg	.04	0.035	0.034	88	87	72-125	2	25	
cis-1,3-Dichloropropene	mg/kg	.04	0.036	0.035	92	89	71-125	4	25	
Dibromochloromethane	mg/kg	.04	0.035	0.034	87	86	69-125	3	25	
Dichlorodifluoromethane	mg/kg	.04	0.029	0.028	73	72	46-125	3	25	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

LABORATORY CONTROL SAMPLE & LCSD: 401416		401417									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Ethylbenzene	mg/kg	.04	0.033	0.033	85	85	72-125	1	25		
Hexachloro-1,3-butadiene	mg/kg	.04	0.029	0.028	73	71	67-125	5	25		
m&p-Xylene	mg/kg	.079	0.066	0.065	83	83	71-125	1	25		
Methyl-tert-butyl ether	mg/kg	.04	0.033	0.031	83	80	71-125	5	25		
Methylene Chloride	mg/kg	.04	0.034	0.035	87	89	58-125	1	25		
Naphthalene	mg/kg	.04	0.035	0.032	87	82	64-125	8	25		
o-Xylene	mg/kg	.04	0.032	0.032	81	81	73-125	2	25		
Styrene	mg/kg	.04	0.033	0.033	84	84	71-125	2	25		
Tetrachloroethene	mg/kg	.04	0.033	0.032	84	81	72-125	4	25		
Tetrahydrofuran	mg/kg	.4	0.40	0.34	102	87	70-130	17	25		
Toluene	mg/kg	.04	0.034	0.033	85	84	70-125	2	25		
trans-1,2-Dichloroethene	mg/kg	.04	0.033	0.032	84	82	72-125	3	25		
trans-1,3-Dichloropropene	mg/kg	.04	0.037	0.035	93	91	68-125	3	25		
Trichloroethene	mg/kg	.04	0.032	0.031	81	80	73-125	2	25		
Trichlorofluoromethane	mg/kg	.04	0.038	0.038	97	97	66-125	1	25		
Vinyl chloride	mg/kg	.04	0.033	0.033	83	83	62-125	1	25		
1,2-Dichloroethane-d4 (S)	%				107	103	70-130				
4-Bromofluorobenzene (S)	%				89	89	70-130				
Toluene-d8 (S)	%				97	97	70-130				

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QUALITY CONTROL DATA

Project: UPRR_Freeman
Pace Project No.: 1279470

QC Batch: 101163 Analysis Method: EPA 8260B
QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Low Soil
Associated Lab Samples: 1279470009, 1279470010, 1279470011, 1279470012, 1279470013, 1279470014, 1279470015, 1279470016, 1279470017, 1279470018, 1279470019, 1279470020, 1279470021, 1279470022, 1279470023, 1279470024, 1279470025, 1279470026, 1279470027

METHOD BLANK: 402165 Matrix: Solid
Associated Lab Samples: 1279470009, 1279470010, 1279470011, 1279470012, 1279470013, 1279470014, 1279470015, 1279470016, 1279470017, 1279470018, 1279470019, 1279470020, 1279470021, 1279470022, 1279470023, 1279470024, 1279470025, 1279470026, 1279470027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	<0.00011	0.0050	0.00011	12/01/16 12:29	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0025	0.0050	0.0025	12/01/16 12:29	
1,1,2-Trichloroethane	mg/kg	<0.00014	0.0050	0.00014	12/01/16 12:29	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00014	0.0050	0.00014	12/01/16 12:29	
1,1-Dichloroethane	mg/kg	<0.00011	0.0050	0.00011	12/01/16 12:29	
1,1-Dichloroethene	mg/kg	<0.00013	0.0050	0.00013	12/01/16 12:29	
1,2,4-Trichlorobenzene	mg/kg	<0.00012	0.0050	0.00012	12/01/16 12:29	
1,2,4-Trimethylbenzene	mg/kg	<0.00010	0.0050	0.00010	12/01/16 12:29	
1,2-Dibromoethane (EDB)	mg/kg	<0.000073	0.0050	0.000073	12/01/16 12:29	
1,2-Dichlorobenzene	mg/kg	<0.000070	0.0050	0.000070	12/01/16 12:29	
1,2-Dichloroethane	mg/kg	<0.0025	0.0050	0.0025	12/01/16 12:29	
1,3,5-Trimethylbenzene	mg/kg	<0.000084	0.0050	0.000084	12/01/16 12:29	
1,3-Dichlorobenzene	mg/kg	<0.000052	0.0050	0.000052	12/01/16 12:29	
1,4-Dichlorobenzene	mg/kg	<0.00014	0.0050	0.00014	12/01/16 12:29	
2-Butanone (MEK)	mg/kg	<0.0023	0.050	0.0023	12/01/16 12:29	
2-Hexanone	mg/kg	<0.00050	0.050	0.00050	12/01/16 12:29	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00039	0.050	0.00039	12/01/16 12:29	
Acetone	mg/kg	<0.00055	0.050	0.00055	12/01/16 12:29	
Benzene	mg/kg	<0.000075	0.0050	0.000075	12/01/16 12:29	
Bromodichloromethane	mg/kg	<0.00012	0.0050	0.00012	12/01/16 12:29	
Bromoform	mg/kg	<0.00021	0.0050	0.00021	12/01/16 12:29	
Bromomethane	mg/kg	<0.00017	0.020	0.00017	12/01/16 12:29	
Carbon tetrachloride	mg/kg	<0.00017	0.0050	0.00017	12/01/16 12:29	
Chlorobenzene	mg/kg	<0.00010	0.0050	0.00010	12/01/16 12:29	
Chloroethane	mg/kg	<0.00020	0.0050	0.00020	12/01/16 12:29	
Chloroform	mg/kg	<0.00065	0.0050	0.00065	12/01/16 12:29	
Chloromethane	mg/kg	<0.00013	0.0050	0.00013	12/01/16 12:29	
cis-1,2-Dichloroethene	mg/kg	<0.00012	0.0050	0.00012	12/01/16 12:29	
cis-1,3-Dichloropropene	mg/kg	<0.00011	0.0050	0.00011	12/01/16 12:29	
Dibromochloromethane	mg/kg	<0.000080	0.0050	0.000080	12/01/16 12:29	
Dichlorodifluoromethane	mg/kg	<0.00011	0.0050	0.00011	12/01/16 12:29	
Ethylbenzene	mg/kg	<0.000053	0.0050	0.000053	12/01/16 12:29	
Hexachloro-1,3-butadiene	mg/kg	<0.00015	0.0050	0.00015	12/01/16 12:29	
m&p-Xylene	mg/kg	<0.0025	0.0050	0.0025	12/01/16 12:29	
Methyl-tert-butyl ether	mg/kg	<0.000057	0.0050	0.000057	12/01/16 12:29	
Methylene Chloride	mg/kg	<0.00011	0.0050	0.00011	12/01/16 12:29	
Naphthalene	mg/kg	<0.000087	0.0050	0.000087	12/01/16 12:29	
o-Xylene	mg/kg	<0.000079	0.0050	0.000079	12/01/16 12:29	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

METHOD BLANK: 402165

Matrix: Solid

Associated Lab Samples: 1279470009, 1279470010, 1279470011, 1279470012, 1279470013, 1279470014, 1279470015, 1279470016, 1279470017, 1279470018, 1279470019, 1279470020, 1279470021, 1279470022, 1279470023, 1279470024, 1279470025, 1279470026, 1279470027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Styrene	mg/kg	<0.000086	0.0050	0.000086	12/01/16 12:29	
Tetrachloroethene	mg/kg	<0.000058	0.0050	0.000058	12/01/16 12:29	
Tetrahydrofuran	mg/kg	<0.0013	0.099	0.0013	12/01/16 12:29	
Toluene	mg/kg	<0.000090	0.0050	0.000090	12/01/16 12:29	
trans-1,2-Dichloroethene	mg/kg	<0.00013	0.0050	0.00013	12/01/16 12:29	
trans-1,3-Dichloropropene	mg/kg	<0.00011	0.0050	0.00011	12/01/16 12:29	
Trichloroethene	mg/kg	<0.00014	0.0050	0.00014	12/01/16 12:29	
Trichlorofluoromethane	mg/kg	<0.00016	0.0050	0.00016	12/01/16 12:29	
Vinyl chloride	mg/kg	<0.00015	0.0050	0.00015	12/01/16 12:29	
1,2-Dichloroethane-d4 (S)	%	104	70-130		12/01/16 12:29	
4-Bromofluorobenzene (S)	%	87	70-130		12/01/16 12:29	
Toluene-d8 (S)	%	97	70-130		12/01/16 12:29	

LABORATORY CONTROL SAMPLE: 402166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	.04	0.037	94	71-125	
1,1,2,2-Tetrachloroethane	mg/kg	.04	0.034	85	75-125	
1,1,2-Trichloroethane	mg/kg	.04	0.040	100	74-125	
1,1,2-Trichlorotrifluoroethane	mg/kg	.04	0.033	82	68-125	
1,1-Dichloroethane	mg/kg	.04	0.037	93	71-125	
1,1-Dichloroethene	mg/kg	.04	0.035	87	72-125	
1,2,4-Trichlorobenzene	mg/kg	.04	0.031	77	66-125	
1,2,4-Trimethylbenzene	mg/kg	.04	0.035	86	73-125	
1,2-Dibromoethane (EDB)	mg/kg	.04	0.037	91	73-125	
1,2-Dichlorobenzene	mg/kg	.04	0.033	84	72-125	
1,2-Dichloroethane	mg/kg	.04	0.035	87	67-125	
1,3,5-Trimethylbenzene	mg/kg	.04	0.035	86	74-125	
1,3-Dichlorobenzene	mg/kg	.04	0.031	76	72-125	
1,4-Dichlorobenzene	mg/kg	.04	0.034	85	69-125	
2-Butanone (MEK)	mg/kg	.2	0.18	89	63-134	
2-Hexanone	mg/kg	.2	0.21	107	70-130	
4-Methyl-2-pentanone (MIBK)	mg/kg	.2	0.19	94	70-130	
Acetone	mg/kg	.2	0.16	81	70-130	
Benzene	mg/kg	.04	0.036	89	69-125	
Bromodichloromethane	mg/kg	.04	0.036	91	70-125	
Bromoform	mg/kg	.04	0.034	86	68-125	
Bromomethane	mg/kg	.04	0.038	94	36-138	
Carbon tetrachloride	mg/kg	.04	0.037	92	69-126	
Chlorobenzene	mg/kg	.04	0.034	85	73-125	
Chloroethane	mg/kg	.04	0.041	103	30-150	
Chloroform	mg/kg	.04	0.036	90	71-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

LABORATORY CONTROL SAMPLE: 402166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	mg/kg	.04	0.029	74	53-125	
cis-1,2-Dichloroethene	mg/kg	.04	0.036	90	72-125	
cis-1,3-Dichloropropene	mg/kg	.04	0.037	94	71-125	
Dibromochloromethane	mg/kg	.04	0.036	90	69-125	
Dichlorodifluoromethane	mg/kg	.04	0.031	78	46-125	
Ethylbenzene	mg/kg	.04	0.035	89	72-125	
Hexachloro-1,3-butadiene	mg/kg	.04	0.030	75	67-125	
m&p-Xylene	mg/kg	.08	0.069	87	71-125	
Methyl-tert-butyl ether	mg/kg	.04	0.033	84	71-125	
Methylene Chloride	mg/kg	.04	0.036	91	58-125	
Naphthalene	mg/kg	.04	0.035	88	64-125	
o-Xylene	mg/kg	.04	0.034	84	73-125	
Styrene	mg/kg	.04	0.035	87	71-125	
Tetrachloroethene	mg/kg	.04	0.035	87	72-125	
Tetrahydrofuran	mg/kg	.4	0.39	97	70-130	
Toluene	mg/kg	.04	0.035	88	70-125	
trans-1,2-Dichloroethene	mg/kg	.04	0.034	85	72-125	
trans-1,3-Dichloropropene	mg/kg	.04	0.038	96	68-125	
Trichloroethene	mg/kg	.04	0.034	84	73-125	
Trichlorofluoromethane	mg/kg	.04	0.039	98	66-125	
Vinyl chloride	mg/kg	.04	0.034	85	62-125	
1,2-Dichloroethane-d4 (S)	%			106	70-130	
4-Bromofluorobenzene (S)	%			91	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 402167

402168

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		1279470009 Result	Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	mg/kg	<0.00017	.061	.06	0.052	0.051	85	84	54-126	3	25	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0037	.061	.06	0.038	0.037	62	62	30-145	2	25	
1,1,2-Trichloroethane	mg/kg	<0.00021	.061	.06	0.046	0.046	75	76	30-134	1	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00020	.061	.06	0.050	0.047	82	77	57-125	7	25	
1,1-Dichloroethane	mg/kg	<0.00017	.061	.06	0.048	0.049	79	82	51-125	2	25	
1,1-Dichloroethene	mg/kg	<0.00020	.061	.06	0.049	0.048	79	80	60-125	1	25	
1,2,4-Trichlorobenzene	mg/kg	<0.00018	.061	.06	0.037	0.037	60	62	30-125	1	25	
1,2,4-Trimethylbenzene	mg/kg	<0.00015	.061	.06	0.045	0.045	73	75	30-131	0	25	
1,2-Dibromoethane (EDB)	mg/kg	<0.00011	.061	.06	0.042	0.042	69	70	46-125	0	25	
1,2-Dichlorobenzene	mg/kg	<0.00010	.061	.06	0.041	0.042	67	70	30-125	3	25	
1,2-Dichloroethane	mg/kg	<0.0037	.061	.06	0.041	0.042	67	69	46-125	2	25	
1,3,5-Trimethylbenzene	mg/kg	<0.00012	.061	.06	0.046	0.046	75	76	30-132	0	25	
1,3-Dichlorobenzene	mg/kg	<0.00077	.061	.06	0.038	0.039	63	65	30-125	2	25	
1,4-Dichlorobenzene	mg/kg	<0.00021	.061	.06	0.043	0.044	70	72	30-125	2	25	
2-Butanone (MEK)	mg/kg	<0.0034	.31	.31	0.19	0.17	61	55	39-142	12	25	
2-Hexanone	mg/kg	<0.00074	.31	.31	0.23	0.20	74	67	30-150	12	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

Parameter	Units	1279470009		402167		402168		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00057	.31	.31	0.20	0.19	67	62	30-150	9	25		
Acetone	mg/kg	0.0036J	.31	.31	0.18	0.16	57	51	30-150	12	25		
Benzene	mg/kg	<0.00011	.061	.06	0.047	0.047	77	78	56-125	1	25		
Bromodichloromethane	mg/kg	<0.00018	.061	.06	0.045	0.045	73	75	31-132	0	25		
Bromoform	mg/kg	<0.00031	.061	.06	0.039	0.040	64	66	30-125	1	25		
Bromomethane	mg/kg	<0.00025	.061	.06	0.051	0.050	83	83	30-139	2	25		
Carbon tetrachloride	mg/kg	<0.00025	.061	.06	0.053	0.051	86	85	49-130	3	25		
Chlorobenzene	mg/kg	<0.00015	.061	.06	0.043	0.045	71	74	33-125	3	25		
Chloroethane	mg/kg	<0.00030	.061	.06	0.055	0.056	90	93	30-150	2	25		
Chloroform	mg/kg	<0.000097	.061	.06	0.046	0.047	76	78	46-125	2	25		
Chloromethane	mg/kg	<0.00019	.061	.06	0.041	0.040	68	67	45-125	2	25		
cis-1,2-Dichloroethene	mg/kg	<0.00018	.061	.06	0.046	0.047	76	78	50-125	1	25		
cis-1,3-Dichloropropene	mg/kg	<0.00017	.061	.06	0.046	0.046	74	77	35-126	2	25		
Dibromochloromethane	mg/kg	<0.00012	.061	.06	0.043	0.044	69	72	30-130	3	25		
Dichlorodifluoromethane	mg/kg	<0.00016	.061	.06	0.046	0.044	74	72	44-125	4	25		
Ethylbenzene	mg/kg	<0.000078	.061	.06	0.047	0.047	77	79	45-125	1	25		
Hexachloro-1,3-butadiene	mg/kg	<0.00022	.061	.06	0.042	0.039	68	65	30-125	6	25		
m&p-Xylene	mg/kg	<0.0037	.12	.12	0.092	0.092	75	76	40-125	0	25		
Methyl-tert-butyl ether	mg/kg	<0.000085	.061	.06	0.039	0.039	63	65	42-125	1	25		
Methylene Chloride	mg/kg	<0.00017	.061	.06	0.047	0.047	76	79	42-125	2	25		
Naphthalene	mg/kg	<0.00013	.061	.06	0.040	0.039	65	64	30-127	3	25		
o-Xylene	mg/kg	<0.00012	.061	.06	0.044	0.044	71	73	44-125	1	25		
Styrene	mg/kg	<0.00013	.061	.06	0.043	0.044	70	73	30-128	3	25		
Tetrachloroethene	mg/kg	<0.000087	.061	.06	0.049	0.047	80	79	42-125	3	25		
Tetrahydrofuran	mg/kg	<0.0020	.61	.6	0.42	0.36	68	60	70-130	14	25 M1		
Toluene	mg/kg	<0.00013	.061	.06	0.047	0.047	77	78	50-125	1	25		
trans-1,2-Dichloroethene	mg/kg	<0.00019	.061	.06	0.047	0.047	76	78	57-125	0	25		
trans-1,3-Dichloropropene	mg/kg	<0.00017	.061	.06	0.046	0.046	74	76	33-125	1	25		
Trichloroethene	mg/kg	<0.00021	.061	.06	0.046	0.045	75	75	51-125	2	25		
Trichlorofluoromethane	mg/kg	<0.00023	.061	.06	0.058	0.055	94	91	54-125	4	25		
Vinyl chloride	mg/kg	<0.00022	.061	.06	0.048	0.047	78	77	57-125	2	25		
1,2-Dichloroethane-d4 (S)	%.						105	101	70-130				
4-Bromofluorobenzene (S)	%.						88	88	70-130				
Toluene-d8 (S)	%.						98	97	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

QC Batch: 101292 Analysis Method: EPA 8260B
QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Low Soil
Associated Lab Samples: 1279470028, 1279470029, 1279470030, 1279470031

METHOD BLANK: 402740 Matrix: Solid
Associated Lab Samples: 1279470028, 1279470029, 1279470030, 1279470031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	<0.00011	0.0050	0.00011	12/02/16 11:29	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0025	0.0050	0.0025	12/02/16 11:29	
1,1,2-Trichloroethane	mg/kg	<0.00014	0.0050	0.00014	12/02/16 11:29	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00014	0.0050	0.00014	12/02/16 11:29	
1,1-Dichloroethane	mg/kg	<0.00012	0.0050	0.00012	12/02/16 11:29	
1,1-Dichloroethene	mg/kg	<0.00013	0.0050	0.00013	12/02/16 11:29	
1,2,4-Trichlorobenzene	mg/kg	<0.00012	0.0050	0.00012	12/02/16 11:29	
1,2,4-Trimethylbenzene	mg/kg	<0.00010	0.0050	0.00010	12/02/16 11:29	
1,2-Dibromoethane (EDB)	mg/kg	<0.000073	0.0050	0.000073	12/02/16 11:29	
1,2-Dichlorobenzene	mg/kg	<0.000071	0.0050	0.000071	12/02/16 11:29	
1,2-Dichloroethane	mg/kg	<0.0025	0.0050	0.0025	12/02/16 11:29	
1,3,5-Trimethylbenzene	mg/kg	<0.000084	0.0050	0.000084	12/02/16 11:29	
1,3-Dichlorobenzene	mg/kg	<0.000052	0.0050	0.000052	12/02/16 11:29	
1,4-Dichlorobenzene	mg/kg	<0.00014	0.0050	0.00014	12/02/16 11:29	
2-Butanone (MEK)	mg/kg	<0.0023	0.050	0.0023	12/02/16 11:29	
2-Hexanone	mg/kg	<0.00050	0.050	0.00050	12/02/16 11:29	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00039	0.050	0.00039	12/02/16 11:29	
Acetone	mg/kg	<0.00055	0.050	0.00055	12/02/16 11:29	
Benzene	mg/kg	<0.000075	0.0050	0.000075	12/02/16 11:29	
Bromodichloromethane	mg/kg	<0.00012	0.0050	0.00012	12/02/16 11:29	
Bromoform	mg/kg	<0.00021	0.0050	0.00021	12/02/16 11:29	
Bromomethane	mg/kg	<0.00017	0.020	0.00017	12/02/16 11:29	
Carbon tetrachloride	mg/kg	<0.00017	0.0050	0.00017	12/02/16 11:29	
Chlorobenzene	mg/kg	<0.00010	0.0050	0.00010	12/02/16 11:29	
Chloroethane	mg/kg	<0.00020	0.0050	0.00020	12/02/16 11:29	
Chloroform	mg/kg	<0.000066	0.0050	0.000066	12/02/16 11:29	
Chloromethane	mg/kg	<0.00013	0.0050	0.00013	12/02/16 11:29	
cis-1,2-Dichloroethene	mg/kg	<0.00012	0.0050	0.00012	12/02/16 11:29	
cis-1,3-Dichloropropene	mg/kg	<0.00011	0.0050	0.00011	12/02/16 11:29	
Dibromochloromethane	mg/kg	<0.000081	0.0050	0.000081	12/02/16 11:29	
Dichlorodifluoromethane	mg/kg	<0.00011	0.0050	0.00011	12/02/16 11:29	
Ethylbenzene	mg/kg	<0.000053	0.0050	0.000053	12/02/16 11:29	
Hexachloro-1,3-butadiene	mg/kg	<0.00015	0.0050	0.00015	12/02/16 11:29	
m&p-Xylene	mg/kg	<0.0025	0.0050	0.0025	12/02/16 11:29	
Methyl-tert-butyl ether	mg/kg	<0.000057	0.0050	0.000057	12/02/16 11:29	
Methylene Chloride	mg/kg	<0.00011	0.0050	0.00011	12/02/16 11:29	
Naphthalene	mg/kg	<0.000087	0.0050	0.000087	12/02/16 11:29	
o-Xylene	mg/kg	<0.000079	0.0050	0.000079	12/02/16 11:29	
Styrene	mg/kg	<0.000086	0.0050	0.000086	12/02/16 11:29	
Tetrachloroethene	mg/kg	<0.000058	0.0050	0.000058	12/02/16 11:29	
Tetrahydrofuran	mg/kg	<0.0013	0.099	0.0013	12/02/16 11:29	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

METHOD BLANK: 402740

Matrix: Solid

Associated Lab Samples: 1279470028, 1279470029, 1279470030, 1279470031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	<0.000091	0.0050	0.000091	12/02/16 11:29	
trans-1,2-Dichloroethene	mg/kg	<0.00013	0.0050	0.00013	12/02/16 11:29	
trans-1,3-Dichloropropene	mg/kg	<0.00012	0.0050	0.00012	12/02/16 11:29	
Trichloroethene	mg/kg	<0.00014	0.0050	0.00014	12/02/16 11:29	
Trichlorofluoromethane	mg/kg	<0.00016	0.0050	0.00016	12/02/16 11:29	
Vinyl chloride	mg/kg	<0.00015	0.0050	0.00015	12/02/16 11:29	
1,2-Dichloroethane-d4 (S)	%	107	70-130		12/02/16 11:29	
4-Bromofluorobenzene (S)	%	84	70-130		12/02/16 11:29	
Toluene-d8 (S)	%	97	70-130		12/02/16 11:29	

LABORATORY CONTROL SAMPLE: 402741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	.039	0.037	94	71-125	
1,1,2,2-Tetrachloroethane	mg/kg	.039	0.031	79	75-125	
1,1,2-Trichloroethane	mg/kg	.039	0.039	98	74-125	
1,1,2-Trichlorotrifluoroethane	mg/kg	.039	0.033	84	68-125	
1,1-Dichloroethane	mg/kg	.039	0.037	94	71-125	
1,1-Dichloroethene	mg/kg	.039	0.034	87	72-125	
1,2,4-Trichlorobenzene	mg/kg	.039	0.030	76	66-125	
1,2,4-Trimethylbenzene	mg/kg	.039	0.033	85	73-125	
1,2-Dibromoethane (EDB)	mg/kg	.039	0.035	90	73-125	
1,2-Dichlorobenzene	mg/kg	.039	0.033	84	72-125	
1,2-Dichloroethane	mg/kg	.039	0.034	87	67-125	
1,3,5-Trimethylbenzene	mg/kg	.039	0.034	87	74-125	
1,3-Dichlorobenzene	mg/kg	.039	0.030	75	72-125	
1,4-Dichlorobenzene	mg/kg	.039	0.034	87	69-125	
2-Butanone (MEK)	mg/kg	.2	0.16	79	63-134	
2-Hexanone	mg/kg	.2	0.19	97	70-130	
4-Methyl-2-pentanone (MIBK)	mg/kg	.2	0.17	87	70-130	
Acetone	mg/kg	.2	0.15	75	70-130	
Benzene	mg/kg	.039	0.035	90	69-125	
Bromodichloromethane	mg/kg	.039	0.036	91	70-125	
Bromoform	mg/kg	.039	0.031	79	68-125	
Bromomethane	mg/kg	.039	0.034	86	36-138	
Carbon tetrachloride	mg/kg	.039	0.037	93	69-126	
Chlorobenzene	mg/kg	.039	0.033	83	73-125	
Chloroethane	mg/kg	.039	0.041	104	30-150	
Chloroform	mg/kg	.039	0.036	91	71-125	
Chloromethane	mg/kg	.039	0.029	74	53-125	
cis-1,2-Dichloroethene	mg/kg	.039	0.035	90	72-125	
cis-1,3-Dichloropropene	mg/kg	.039	0.037	95	71-125	
Dibromochloromethane	mg/kg	.039	0.035	90	69-125	
Dichlorodifluoromethane	mg/kg	.039	0.030	76	46-125	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

LABORATORY CONTROL SAMPLE: 402741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	mg/kg	.039	0.034	87	72-125	
Hexachloro-1,3-butadiene	mg/kg	.039	0.029	73	67-125	
m&p-Xylene	mg/kg	.079	0.068	86	71-125	
Methyl-tert-butyl ether	mg/kg	.039	0.032	82	71-125	
Methylene Chloride	mg/kg	.039	0.034	87	58-125	
Naphthalene	mg/kg	.039	0.032	81	64-125	
o-Xylene	mg/kg	.039	0.033	83	73-125	
Styrene	mg/kg	.039	0.034	86	71-125	
Tetrachloroethene	mg/kg	.039	0.034	85	72-125	
Tetrahydrofuran	mg/kg	.39	0.34	85	70-130	
Toluene	mg/kg	.039	0.035	88	70-125	
trans-1,2-Dichloroethene	mg/kg	.039	0.034	86	72-125	
trans-1,3-Dichloropropene	mg/kg	.039	0.037	95	68-125	
Trichloroethene	mg/kg	.039	0.032	82	73-125	
Trichlorofluoromethane	mg/kg	.039	0.038	96	66-125	
Vinyl chloride	mg/kg	.039	0.033	83	62-125	
1,2-Dichloroethane-d4 (S)	%			108	70-130	
4-Bromofluorobenzene (S)	%			86	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 402742 402743

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		1279470028 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	mg/kg	<0.00014	.047	.047	0.043	0.040	93	87	54-126	7	25	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0030	.047	.047	0.034	0.032	73	70	30-145	5	25	
1,1,2-Trichloroethane	mg/kg	<0.00017	.047	.047	0.041	0.039	88	84	30-134	4	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00017	.047	.047	0.038	0.036	82	77	57-125	6	25	
1,1-Dichloroethane	mg/kg	<0.00014	.047	.047	0.042	0.039	89	84	51-125	6	25	
1,1-Dichloroethene	mg/kg	<0.00016	.047	.047	0.040	0.038	87	81	60-125	7	25	
1,2,4-Trichlorobenzene	mg/kg	<0.00014	.047	.047	0.032	0.030	68	64	30-125	6	25	
1,2,4-Trimethylbenzene	mg/kg	<0.00012	.047	.047	0.038	0.036	82	77	30-131	7	25	
1,2-Dibromoethane (EDB)	mg/kg	<0.000087	.047	.047	0.038	0.035	82	75	46-125	9	25	
1,2-Dichlorobenzene	mg/kg	<0.000085	.047	.047	0.036	0.034	77	73	30-125	6	25	
1,2-Dichloroethane	mg/kg	<0.0030	.047	.047	0.037	0.035	80	76	46-125	5	25	
1,3,5-Trimethylbenzene	mg/kg	<0.00010	.047	.047	0.038	0.036	83	78	30-132	6	25	
1,3-Dichlorobenzene	mg/kg	<0.000063	.047	.047	0.033	0.031	70	67	30-125	5	25	
1,4-Dichlorobenzene	mg/kg	<0.00017	.047	.047	0.037	0.035	80	75	30-125	7	25	
2-Butanone (MEK)	mg/kg	<0.0028	.23	.23	0.17	0.16	72	69	39-142	5	25	
2-Hexanone	mg/kg	<0.00060	.23	.23	0.20	0.20	87	84	30-150	4	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00047	.23	.23	0.19	0.18	80	76	30-150	5	25	
Acetone	mg/kg	0.0052J	.23	.23	0.16	0.15	66	63	30-150	5	25	
Benzene	mg/kg	<0.000091	.047	.047	0.039	0.037	85	80	56-125	5	25	
Bromodichloromethane	mg/kg	<0.00015	.047	.047	0.039	0.037	84	80	31-132	6	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 402742												402743	
Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual	
		1279470028 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Bromoform	mg/kg	<0.00025	.047	.047	0.035	0.033	74	70	30-125	6	25		
Bromomethane	mg/kg	<0.00020	.047	.047	0.041	0.040	88	86	30-139	3	25		
Carbon tetrachloride	mg/kg	<0.00021	.047	.047	0.042	0.040	91	86	49-130	6	25		
Chlorobenzene	mg/kg	<0.00012	.047	.047	0.037	0.035	79	75	33-125	4	25		
Chloroethane	mg/kg	<0.00024	.047	.047	0.044	0.042	94	90	30-150	5	25		
Chloroform	mg/kg	<0.000079	.047	.047	0.040	0.037	86	80	46-125	7	25		
Chloromethane	mg/kg	<0.00016	.047	.047	0.034	0.032	74	68	45-125	8	25		
cis-1,2-Dichloroethene	mg/kg	<0.00014	.047	.047	0.039	0.037	84	80	50-125	4	25		
cis-1,3-Dichloropropene	mg/kg	<0.00014	.047	.047	0.041	0.038	88	82	35-126	6	25		
Dibromochloromethane	mg/kg	<0.000097	.047	.047	0.038	0.036	81	76	30-130	6	25		
Dichlorodifluoromethane	mg/kg	<0.00013	.047	.047	0.035	0.032	75	70	44-125	8	25		
Ethylbenzene	mg/kg	<0.000063	.047	.047	0.039	0.037	85	80	45-125	5	25		
Hexachloro-1,3-butadiene	mg/kg	<0.00018	.047	.047	0.033	0.032	70	69	30-125	3	25		
m&p-Xylene	mg/kg	<0.0030	.093	.093	0.076	0.072	82	77	40-125	6	25		
Methyl-tert-butyl ether	mg/kg	<0.000069	.047	.047	0.035	0.033	75	70	42-125	6	25		
Methylene Chloride	mg/kg	<0.00013	.047	.047	0.040	0.036	86	78	42-125	9	25		
Naphthalene	mg/kg	0.00011J	.047	.047	0.034	0.032	74	70	30-127	6	25		
o-Xylene	mg/kg	<0.000095	.047	.047	0.037	0.035	80	75	44-125	6	25		
Styrene	mg/kg	<0.00010	.047	.047	0.037	0.035	79	76	30-128	4	25		
Tetrachloroethene	mg/kg	<0.000070	.047	.047	0.039	0.037	83	80	42-125	4	25		
Tetrahydrofuran	mg/kg	<0.0016	.47	.47	0.36	0.34	77	74	70-130	4	25		
Toluene	mg/kg	<0.00011	.047	.047	0.039	0.037	85	80	50-125	5	25		
trans-1,2-Dichloroethene	mg/kg	<0.00016	.047	.047	0.038	0.037	82	80	57-125	2	25		
trans-1,3-Dichloropropene	mg/kg	<0.00014	.047	.047	0.041	0.038	88	82	33-125	7	25		
Trichloroethene	mg/kg	<0.00017	.047	.047	0.037	0.035	80	76	51-125	6	25		
Trichlorofluoromethane	mg/kg	<0.00019	.047	.047	0.044	0.042	94	90	54-125	5	25		
Vinyl chloride	mg/kg	<0.00018	.047	.047	0.038	0.036	83	77	57-125	7	25		
1,2-Dichloroethane-d4 (S)	%						107	107	70-130				
4-Bromofluorobenzene (S)	%						88	87	70-130				
Toluene-d8 (S)	%						98	97	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

QC Batch: 101524 Analysis Method: EPA 8260B
 QC Batch Method: EPA 5030 Low Analysis Description: 8260 MSV Low Soil
 Associated Lab Samples: 1279470032, 1279470033, 1279470034, 1279470035, 1279470036, 1279470037, 1279470038, 1279470042

METHOD BLANK: 403600 Matrix: Solid
 Associated Lab Samples: 1279470032, 1279470033, 1279470034, 1279470035, 1279470036, 1279470037, 1279470038, 1279470042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	<0.00011	0.0049	0.00011	12/06/16 21:29	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0025	0.0049	0.0025	12/06/16 21:29	
1,1,2-Trichloroethane	mg/kg	<0.00014	0.0049	0.00014	12/06/16 21:29	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00014	0.0049	0.00014	12/06/16 21:29	
1,1-Dichloroethane	mg/kg	<0.00011	0.0049	0.00011	12/06/16 21:29	
1,1-Dichloroethene	mg/kg	<0.00013	0.0049	0.00013	12/06/16 21:29	
1,2,4-Trichlorobenzene	mg/kg	<0.00012	0.0049	0.00012	12/06/16 21:29	
1,2,4-Trimethylbenzene	mg/kg	<0.00010	0.0049	0.00010	12/06/16 21:29	
1,2-Dibromoethane (EDB)	mg/kg	<0.000072	0.0049	0.000072	12/06/16 21:29	
1,2-Dichlorobenzene	mg/kg	<0.000070	0.0049	0.000070	12/06/16 21:29	
1,2-Dichloroethane	mg/kg	<0.0025	0.0049	0.0025	12/06/16 21:29	
1,3,5-Trimethylbenzene	mg/kg	<0.000083	0.0049	0.000083	12/06/16 21:29	
1,3-Dichlorobenzene	mg/kg	<0.000052	0.0049	0.000052	12/06/16 21:29	
1,4-Dichlorobenzene	mg/kg	<0.00014	0.0049	0.00014	12/06/16 21:29	
2-Butanone (MEK)	mg/kg	<0.0023	0.049	0.0023	12/06/16 21:29	
2-Hexanone	mg/kg	<0.00050	0.049	0.00050	12/06/16 21:29	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00038	0.049	0.00038	12/06/16 21:29	
Acetone	mg/kg	<0.00055	0.049	0.00055	12/06/16 21:29	
Benzene	mg/kg	<0.000075	0.0049	0.000075	12/06/16 21:29	
Bromodichloromethane	mg/kg	<0.00012	0.0049	0.00012	12/06/16 21:29	
Bromoform	mg/kg	<0.00021	0.0049	0.00021	12/06/16 21:29	
Bromomethane	mg/kg	<0.00016	0.020	0.00016	12/06/16 21:29	
Carbon tetrachloride	mg/kg	<0.00017	0.0049	0.00017	12/06/16 21:29	
Chlorobenzene	mg/kg	<0.00010	0.0049	0.00010	12/06/16 21:29	
Chloroethane	mg/kg	<0.00020	0.0049	0.00020	12/06/16 21:29	
Chloroform	mg/kg	<0.000065	0.0049	0.000065	12/06/16 21:29	
Chloromethane	mg/kg	<0.00013	0.0049	0.00013	12/06/16 21:29	
cis-1,2-Dichloroethene	mg/kg	<0.00012	0.0049	0.00012	12/06/16 21:29	
cis-1,3-Dichloropropene	mg/kg	<0.00011	0.0049	0.00011	12/06/16 21:29	
Dibromochloromethane	mg/kg	<0.000080	0.0049	0.000080	12/06/16 21:29	
Dichlorodifluoromethane	mg/kg	<0.00011	0.0049	0.00011	12/06/16 21:29	
Ethylbenzene	mg/kg	<0.000052	0.0049	0.000052	12/06/16 21:29	
Hexachloro-1,3-butadiene	mg/kg	<0.00015	0.0049	0.00015	12/06/16 21:29	
m&p-Xylene	mg/kg	<0.0025	0.0049	0.0025	12/06/16 21:29	
Methyl-tert-butyl ether	mg/kg	<0.000057	0.0049	0.000057	12/06/16 21:29	
Methylene Chloride	mg/kg	<0.00011	0.0049	0.00011	12/06/16 21:29	
Naphthalene	mg/kg	0.00012J	0.0049	0.000087	12/06/16 21:29	
o-Xylene	mg/kg	<0.000079	0.0049	0.000079	12/06/16 21:29	
Styrene	mg/kg	<0.000086	0.0049	0.000086	12/06/16 21:29	
Tetrachloroethene	mg/kg	<0.000058	0.0049	0.000058	12/06/16 21:29	
Tetrahydrofuran	mg/kg	<0.0013	0.099	0.0013	12/06/16 21:29	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

METHOD BLANK: 403600

Matrix: Solid

Associated Lab Samples: 1279470032, 1279470033, 1279470034, 1279470035, 1279470036, 1279470037, 1279470038, 1279470042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	<0.000090	0.0049	0.000090	12/06/16 21:29	
trans-1,2-Dichloroethene	mg/kg	<0.00013	0.0049	0.00013	12/06/16 21:29	
trans-1,3-Dichloropropene	mg/kg	<0.00011	0.0049	0.00011	12/06/16 21:29	
Trichloroethene	mg/kg	<0.00014	0.0049	0.00014	12/06/16 21:29	
Trichlorofluoromethane	mg/kg	<0.00016	0.0049	0.00016	12/06/16 21:29	
Vinyl chloride	mg/kg	<0.00015	0.0049	0.00015	12/06/16 21:29	
1,2-Dichloroethane-d4 (S)	%	103	70-130		12/06/16 21:29	
4-Bromofluorobenzene (S)	%	103	70-130		12/06/16 21:29	
Toluene-d8 (S)	%	102	70-130		12/06/16 21:29	

LABORATORY CONTROL SAMPLE: 403601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	mg/kg	.039	0.035	89	71-125	
1,1,2,2-Tetrachloroethane	mg/kg	.039	0.033	83	75-125	
1,1,2-Trichloroethane	mg/kg	.039	0.034	85	74-125	
1,1,2-Trichlorotrifluoroethane	mg/kg	.039	0.035	90	68-125	
1,1-Dichloroethane	mg/kg	.039	0.034	87	71-125	
1,1-Dichloroethene	mg/kg	.039	0.035	89	72-125	
1,2,4-Trichlorobenzene	mg/kg	.039	0.032	80	66-125	
1,2,4-Trimethylbenzene	mg/kg	.039	0.033	83	73-125	
1,2-Dibromoethane (EDB)	mg/kg	.039	0.034	87	73-125	
1,2-Dichlorobenzene	mg/kg	.039	0.032	81	72-125	
1,2-Dichloroethane	mg/kg	.039	0.033	84	67-125	
1,3,5-Trimethylbenzene	mg/kg	.039	0.033	84	74-125	
1,3-Dichlorobenzene	mg/kg	.039	0.031	80	72-125	
1,4-Dichlorobenzene	mg/kg	.039	0.031	79	69-125	
2-Butanone (MEK)	mg/kg	.2	0.16	79	63-134	
2-Hexanone	mg/kg	.2	0.17	85	70-130	
4-Methyl-2-pentanone (MIBK)	mg/kg	.2	0.17	84	70-130	
Acetone	mg/kg	.2	0.17	85	70-130	
Benzene	mg/kg	.039	0.032	81	69-125	
Bromodichloromethane	mg/kg	.039	0.035	89	70-125	
Bromoform	mg/kg	.039	0.034	87	68-125	
Bromomethane	mg/kg	.039	0.035	89	36-138	
Carbon tetrachloride	mg/kg	.039	0.036	90	69-126	
Chlorobenzene	mg/kg	.039	0.032	82	73-125	
Chloroethane	mg/kg	.039	0.034	87	30-150	
Chloroform	mg/kg	.039	0.034	85	71-125	
Chloromethane	mg/kg	.039	0.033	84	53-125	
cis-1,2-Dichloroethene	mg/kg	.039	0.033	84	72-125	
cis-1,3-Dichloropropene	mg/kg	.039	0.035	88	71-125	
Dibromochloromethane	mg/kg	.039	0.034	87	69-125	
Dichlorodifluoromethane	mg/kg	.039	0.035	88	46-125	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

LABORATORY CONTROL SAMPLE: 403601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	mg/kg	.039	0.033	84	72-125	
Hexachloro-1,3-butadiene	mg/kg	.039	0.034	86	67-125	
m&p-Xylene	mg/kg	.079	0.066	84	71-125	
Methyl-tert-butyl ether	mg/kg	.039	0.032	81	71-125	
Methylene Chloride	mg/kg	.039	0.032	82	58-125	
Naphthalene	mg/kg	.039	0.033	83	64-125	
o-Xylene	mg/kg	.039	0.033	83	73-125	
Styrene	mg/kg	.039	0.034	85	71-125	
Tetrachloroethene	mg/kg	.039	0.034	87	72-125	
Tetrahydrofuran	mg/kg	.39	0.31	79	70-130	
Toluene	mg/kg	.039	0.033	85	70-125	
trans-1,2-Dichloroethene	mg/kg	.039	0.034	86	72-125	
trans-1,3-Dichloropropene	mg/kg	.039	0.033	83	68-125	
Trichloroethene	mg/kg	.039	0.034	86	73-125	
Trichlorofluoromethane	mg/kg	.039	0.036	90	66-125	
Vinyl chloride	mg/kg	.039	0.038	96	62-125	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403602 403603

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		1279470032 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	mg/kg	<0.00017	.061	.061	0.054	0.051	88	84	54-126	5	25	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0038	.061	.061	0.044	0.046	73	76	30-145	4	25	
1,1,2-Trichloroethane	mg/kg	<0.00022	.061	.061	0.048	0.048	78	79	30-134	0	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.00021	.061	.061	0.054	0.052	89	86	57-125	4	25	
1,1-Dichloroethane	mg/kg	<0.00018	.061	.061	0.052	0.049	85	81	51-125	5	25	
1,1-Dichloroethene	mg/kg	<0.00020	.061	.061	0.053	0.051	86	83	60-125	4	25	
1,2,4-Trichlorobenzene	mg/kg	<0.00018	.061	.061	0.047	0.044	77	73	30-125	6	25	
1,2,4-Trimethylbenzene	mg/kg	<0.00016	.061	.061	0.049	0.046	81	76	30-131	6	25	
1,2-Dibromoethane (EDB)	mg/kg	<0.00011	.061	.061	0.047	0.048	77	78	46-125	2	25	
1,2-Dichlorobenzene	mg/kg	<0.00011	.061	.061	0.047	0.045	77	75	30-125	4	25	
1,2-Dichloroethane	mg/kg	<0.0038	.061	.061	0.046	0.045	76	74	46-125	2	25	
1,3,5-Trimethylbenzene	mg/kg	<0.00013	.061	.061	0.051	0.048	83	79	30-132	6	25	
1,3-Dichlorobenzene	mg/kg	<0.000080	.061	.061	0.047	0.044	77	73	30-125	6	25	
1,4-Dichlorobenzene	mg/kg	<0.00022	.061	.061	0.047	0.044	76	73	30-125	5	25	
2-Butanone (MEK)	mg/kg	<0.0035	.31	.31	0.19	0.23	62	75	39-142	19	25	
2-Hexanone	mg/kg	<0.00077	.31	.31	0.20	0.24	66	79	30-150	18	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.00059	.31	.31	0.24	0.29	78	94	30-150	19	25	
Acetone	mg/kg	<0.00084	.31	.31	0.20	0.24	65	79	30-150	18	25	
Benzene	mg/kg	<0.00012	.061	.061	0.048	0.046	78	76	56-125	4	25	
Bromodichloromethane	mg/kg	<0.00019	.061	.061	0.051	0.050	84	82	31-132	3	25	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403602												403603	
Parameter	Units	1279470032	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual		
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD			
Bromoform	mg/kg	<0.00032	.061	.061	0.047	0.048	78	80	30-125	2	25		
Bromomethane	mg/kg	<0.00025	.061	.061	0.052	0.051	85	83	30-139	2	25		
Carbon tetrachloride	mg/kg	<0.00026	.061	.061	0.055	0.052	90	86	49-130	5	25		
Chlorobenzene	mg/kg	<0.00015	.061	.061	0.048	0.046	79	75	33-125	5	25		
Chloroethane	mg/kg	<0.00031	.061	.061	0.056	0.050	91	83	30-150	10	25		
Chloroform	mg/kg	<0.00010	.061	.061	0.051	0.048	83	79	46-125	5	25		
Chloromethane	mg/kg	<0.00020	.061	.061	0.050	0.048	83	80	45-125	4	25		
cis-1,2-Dichloroethene	mg/kg	<0.00018	.061	.061	0.049	0.047	81	78	50-125	4	25		
cis-1,3-Dichloropropene	mg/kg	<0.00017	.061	.061	0.051	0.048	83	80	35-126	4	25		
Dibromochloromethane	mg/kg	<0.00012	.061	.061	0.049	0.049	81	81	30-130	1	25		
Dichlorodifluoromethane	mg/kg	<0.00017	.061	.061	0.052	0.050	86	82	44-125	5	25		
Ethylbenzene	mg/kg	<0.000081	.061	.061	0.050	0.047	82	78	45-125	5	25		
Hexachloro-1,3-butadiene	mg/kg	<0.00023	.061	.061	0.051	0.047	84	77	30-125	9	25		
m&p-Xylene	mg/kg	<0.0038	.12	.12	0.10	0.094	82	77	40-125	6	25		
Methyl-tert-butyl ether	mg/kg	<0.000088	.061	.061	0.046	0.044	75	73	42-125	3	25		
Methylene Chloride	mg/kg	<0.00017	.061	.061	0.048	0.046	78	75	42-125	5	25		
Naphthalene	mg/kg	0.00023J	.061	.061	0.045	0.046	73	75	30-127	2	25		
o-Xylene	mg/kg	<0.00012	.061	.061	0.049	0.046	81	77	44-125	5	25		
Styrene	mg/kg	<0.00013	.061	.061	0.049	0.047	81	78	30-128	5	25		
Tetrachloroethene	mg/kg	<0.000089	.061	.061	0.052	0.049	85	82	42-125	5	25		
Tetrahydrofuran	mg/kg	<0.0020	.61	.61	0.36	0.44	59	73	70-130	20	25		
Toluene	mg/kg	<0.00014	.061	.061	0.050	0.048	82	78	50-125	5	25		
trans-1,2-Dichloroethene	mg/kg	<0.00020	.061	.061	0.051	0.049	83	81	57-125	4	25		
trans-1,3-Dichloropropene	mg/kg	<0.00018	.061	.061	0.047	0.046	77	75	33-125	3	25		
Trichloroethene	mg/kg	<0.00022	.061	.061	0.051	0.049	84	80	51-125	5	25		
Trichlorofluoromethane	mg/kg	<0.00024	.061	.061	0.054	0.052	89	85	54-125	5	25		
Vinyl chloride	mg/kg	<0.00023	.061	.061	0.058	0.055	95	90	57-125	6	25		
1,2-Dichloroethane-d4 (S)	%						99	101	70-130				
4-Bromofluorobenzene (S)	%						104	104	70-130				
Toluene-d8 (S)	%						102	102	70-130				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman
Pace Project No.: 1279470

QC Batch: 101351 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV Med Soil
Associated Lab Samples: 1279470039, 1279470040, 1279470041

METHOD BLANK: 402915 Matrix: Solid
Associated Lab Samples: 1279470039, 1279470040, 1279470041

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	mg/kg	<0.0037	0.25	0.0037	12/02/16 19:46	
1,1,2,2-Tetrachloroethane	mg/kg	<0.0049	0.25	0.0049	12/02/16 19:46	
1,1,2-Trichloroethane	mg/kg	<0.0064	0.25	0.0064	12/02/16 19:46	
1,1,2-Trichlorotrifluoroethane	mg/kg	<0.0082	0.25	0.0082	12/02/16 19:46	
1,1-Dichloroethane	mg/kg	<0.0052	0.25	0.0052	12/02/16 19:46	
1,1-Dichloroethene	mg/kg	<0.0074	0.25	0.0074	12/02/16 19:46	
1,2,4-Trichlorobenzene	mg/kg	<0.0049	0.25	0.0049	12/02/16 19:46	
1,2,4-Trimethylbenzene	mg/kg	<0.0027	0.25	0.0027	12/02/16 19:46	
1,2-Dibromoethane (EDB)	mg/kg	<0.0062	0.25	0.0062	12/02/16 19:46	
1,2-Dichlorobenzene	mg/kg	<0.0026	0.25	0.0026	12/02/16 19:46	
1,2-Dichloroethane	mg/kg	<0.0033	0.25	0.0033	12/02/16 19:46	
1,3,5-Trimethylbenzene	mg/kg	<0.12	0.25	0.12	12/02/16 19:46	
1,3-Dichlorobenzene	mg/kg	<0.0045	0.25	0.0045	12/02/16 19:46	
1,4-Dichlorobenzene	mg/kg	<0.0043	0.25	0.0043	12/02/16 19:46	
2-Butanone (MEK)	mg/kg	<0.032	2.5	0.032	12/02/16 19:46	
2-Hexanone	mg/kg	<0.027	2.5	0.027	12/02/16 19:46	
4-Methyl-2-pentanone (MIBK)	mg/kg	<0.017	2.5	0.017	12/02/16 19:46	
Acetone	mg/kg	<0.30	2.5	0.30	12/02/16 19:46	
Benzene	mg/kg	<0.0029	0.25	0.0029	12/02/16 19:46	
Bromodichloromethane	mg/kg	<0.0034	0.25	0.0034	12/02/16 19:46	
Bromoform	mg/kg	<0.0054	0.25	0.0054	12/02/16 19:46	
Bromomethane	mg/kg	<0.072	0.99	0.072	12/02/16 19:46	
Carbon tetrachloride	mg/kg	<0.0050	0.25	0.0050	12/02/16 19:46	
Chlorobenzene	mg/kg	<0.0043	0.25	0.0043	12/02/16 19:46	
Chloroethane	mg/kg	<0.076	0.25	0.076	12/02/16 19:46	
Chloroform	mg/kg	<0.0027	0.25	0.0027	12/02/16 19:46	
Chloromethane	mg/kg	<0.029	0.25	0.029	12/02/16 19:46	
cis-1,2-Dichloroethene	mg/kg	<0.0067	0.25	0.0067	12/02/16 19:46	
cis-1,3-Dichloropropene	mg/kg	<0.0044	0.25	0.0044	12/02/16 19:46	
Dibromochloromethane	mg/kg	<0.0037	0.25	0.0037	12/02/16 19:46	
Dichlorodifluoromethane	mg/kg	<0.0046	0.25	0.0046	12/02/16 19:46	
Ethylbenzene	mg/kg	<0.0032	0.25	0.0032	12/02/16 19:46	
Hexachloro-1,3-butadiene	mg/kg	<0.0038	0.25	0.0038	12/02/16 19:46	
m&p-Xylene	mg/kg	<0.0058	0.25	0.0058	12/02/16 19:46	
Methyl-tert-butyl ether	mg/kg	<0.0043	0.25	0.0043	12/02/16 19:46	
Methylene Chloride	mg/kg	<0.0057	0.25	0.0057	12/02/16 19:46	
Naphthalene	mg/kg	0.0046J	0.25	0.0040	12/02/16 19:46	
o-Xylene	mg/kg	<0.0036	0.25	0.0036	12/02/16 19:46	
Styrene	mg/kg	<0.0050	0.25	0.0050	12/02/16 19:46	
Tetrachloroethene	mg/kg	<0.0054	0.25	0.0054	12/02/16 19:46	
Tetrahydrofuran	mg/kg	<0.061	4.9	0.061	12/02/16 19:46	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

METHOD BLANK: 402915

Matrix: Solid

Associated Lab Samples: 1279470039, 1279470040, 1279470041

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	mg/kg	<0.0037	0.25	0.0037	12/02/16 19:46	
trans-1,2-Dichloroethane	mg/kg	<0.0047	0.25	0.0047	12/02/16 19:46	
trans-1,3-Dichloropropene	mg/kg	<0.0033	0.25	0.0033	12/02/16 19:46	
Trichloroethene	mg/kg	<0.0042	0.25	0.0042	12/02/16 19:46	
Trichlorofluoromethane	mg/kg	<0.0080	0.25	0.0080	12/02/16 19:46	
Vinyl chloride	mg/kg	<0.0044	0.25	0.0044	12/02/16 19:46	
1,2-Dichloroethane-d4 (S)	%	106	70-130		12/02/16 19:46	
4-Bromofluorobenzene (S)	%	81	70-130		12/02/16 19:46	
Toluene-d8 (S)	%	95	70-130		12/02/16 19:46	

LABORATORY CONTROL SAMPLE & LCSD: 402916

402914

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	mg/kg	2	1.8	1.8	91	92	75-126	2	25	
1,1,2,2-Tetrachloroethane	mg/kg	2	2.0	1.8	99	93	58-140	8	25	
1,1,2-Trichloroethane	mg/kg	2	2.1	2.0	105	103	57-136	4	25	
1,1,2-Trichlorotrifluoroethane	mg/kg	2	1.6	1.6	79	80	70-130	1	25	
1,1-Dichloroethane	mg/kg	2	1.9	1.8	95	93	75-125	4	25	
1,1-Dichloroethene	mg/kg	2	1.5	1.5	74	77	74-125	1	25	
1,2,4-Trichlorobenzene	mg/kg	2	1.8	1.7	88	86	75-139	5	25	
1,2,4-Trimethylbenzene	mg/kg	2	1.9	1.8	95	92	75-128	5	25	
1,2-Dibromoethane (EDB)	mg/kg	2	1.9	1.9	97	96	60-138	3	25	
1,2-Dichlorobenzene	mg/kg	2	1.9	1.9	97	95	75-125	5	25	
1,2-Dichloroethane	mg/kg	2	1.9	1.8	94	92	75-125	5	25	
1,3,5-Trimethylbenzene	mg/kg	2	1.9	1.8	94	92	75-125	5	25	
1,3-Dichlorobenzene	mg/kg	2	1.7	1.6	85	82	75-125	7	25	
1,4-Dichlorobenzene	mg/kg	2	1.9	1.8	96	94	75-125	5	25	
2-Butanone (MEK)	mg/kg	10	9.0	8.3	90	85	70-130	8	25	
2-Hexanone	mg/kg	10	11.4	10.4	114	107	70-130	9	25	
4-Methyl-2-pentanone (MIBK)	mg/kg	10	9.9	9.2	99	95	70-130	7	25	
Acetone	mg/kg	10	8.6	8.0	86	82	70-130	7	25	
Benzene	mg/kg	2	1.8	1.8	92	91	75-125	3	25	
Bromodichloromethane	mg/kg	2	1.8	1.8	91	91	75-125	3	25	
Bromoform	mg/kg	2	1.8	1.7	91	88	61-125	6	25	
Bromomethane	mg/kg	2	1.5	1.6	75	84	30-125	9	25	
Carbon tetrachloride	mg/kg	2	1.7	1.7	87	89	72-136	0	25	
Chlorobenzene	mg/kg	2	1.8	1.7	92	90	75-125	6	25	
Chloroethane	mg/kg	2	2.3	2.3	117	119	30-134	2	25	
Chloroform	mg/kg	2	1.9	1.8	93	93	75-125	3	25	
Chloromethane	mg/kg	2	1.4	1.3	71	69	54-128	6	25	
cis-1,2-Dichloroethene	mg/kg	2	1.8	1.8	91	93	75-125	1	25	
cis-1,3-Dichloropropene	mg/kg	2	1.9	1.9	97	96	75-132	4	25	
Dibromochloromethane	mg/kg	2	1.8	1.8	91	91	47-139	3	25	
Dichlorodifluoromethane	mg/kg	2	1.2	1.2	60	59	47-125	4	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 1279470

LABORATORY CONTROL SAMPLE & LCSD: 402916		402914									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Ethylbenzene	mg/kg	2	1.9	1.8	95	93	75-128	5	25		
Hexachloro-1,3-butadiene	mg/kg	2	1.7	1.6	85	81	75-131	8	25		
m&p-Xylene	mg/kg	4	3.7	3.5	92	90	75-131	4	25		
Methyl-tert-butyl ether	mg/kg	2	1.8	1.7	90	90	75-125	2	25		
Methylene Chloride	mg/kg	2	1.9	1.8	96	92	70-133	6	25		
Naphthalene	mg/kg	2	2.1	1.9	103	98	75-126	8	25		
o-Xylene	mg/kg	2	1.8	1.8	91	90	75-127	3	25		
Styrene	mg/kg	2	1.9	1.8	95	92	75-130	6	25		
Tetrachloroethene	mg/kg	2	1.7	1.6	86	84	75-125	4	25		
Tetrahydrofuran	mg/kg	20	19.8	18.6	99	96	70-130	6	25		
Toluene	mg/kg	2	1.8	1.8	90	91	75-125	2	25		
trans-1,2-Dichloroethene	mg/kg	2	1.7	1.6	85	84	75-125	4	25		
trans-1,3-Dichloropropene	mg/kg	2	2.0	1.9	99	99	60-140	2	25		
Trichloroethene	mg/kg	2	1.6	1.6	82	84	75-125	0	25		
Trichlorofluoromethane	mg/kg	2	2.0	1.9	101	99	30-135	5	25		
Vinyl chloride	mg/kg	2	1.6	1.5	78	77	65-134	4	25		
1,2-Dichloroethane-d4 (S)	%				104	104	70-130				
4-Bromofluorobenzene (S)	%				85	86	70-130				
Toluene-d8 (S)	%				95	96	70-130				

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QUALIFIERS

Project: UPRR_Freeman

Pace Project No.: 1279470

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-DAV Pace Analytical Services - Davis

BATCH QUALIFIERS

Batch: 101526

[1] Analysis for all samples conducted outside the recognized method holding time.

[2] The initial calibration verification standard and the continuing calibration for Chloroethane are outside of Pace Analytical acceptance limits. The result is estimated.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR_Freeman

Pace Project No.: 1279470

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1279470001	SB25-SS-4	EPA 5030 Low	100982	EPA 8260B	100998
1279470002	SB25-SS-8	EPA 5030 Low	100982	EPA 8260B	100998
1279470003	SB25-SS-12	EPA 5030 Low	100982	EPA 8260B	100998
1279470004	SB25-SS-16	EPA 5030 Low	100982	EPA 8260B	100998
1279470005	SB25-SS-20	EPA 5030 Low	100982	EPA 8260B	100998
1279470006	SB25-SS-22	EPA 5030 Low	100982	EPA 8260B	100998
1279470007	SB26-SS-5	EPA 5030 Low	100982	EPA 8260B	100998
1279470008	SB26-SS-10	EPA 5030 Low	100982	EPA 8260B	100998
1279470009	SB26-SS-15	EPA 5030 Low	101163	EPA 8260B	101192
1279470010	SB26-SS-20	EPA 5030 Low	101163	EPA 8260B	101192
1279470011	SB26-SS-25	EPA 5030 Low	101163	EPA 8260B	101192
1279470012	SB26-SS-30	EPA 5030 Low	101163	EPA 8260B	101192
1279470013	SB26-SS-31	EPA 5030 Low	101163	EPA 8260B	101192
1279470014	SB27-SS-5	EPA 5030 Low	101163	EPA 8260B	101192
1279470015	SB27-SS-10	EPA 5030 Low	101163	EPA 8260B	101192
1279470016	SB27-SS-15	EPA 5030 Low	101163	EPA 8260B	101192
1279470017	SB27-SS-19	EPA 5030 Low	101163	EPA 8260B	101192
1279470018	SB28-SS-5	EPA 5030 Low	101163	EPA 8260B	101192
1279470019	SB28-SS-10	EPA 5030 Low	101163	EPA 8260B	101192
1279470020	SB28-SS-15	EPA 5030 Low	101163	EPA 8260B	101192
1279470021	SB28-SS-19	EPA 5030 Low	101163	EPA 8260B	101192
1279470022	SB29-SS-5	EPA 5030 Low	101163	EPA 8260B	101192
1279470023	SB29-SS-10	EPA 5030 Low	101163	EPA 8260B	101192
1279470024	SB29-SS-13	EPA 5030 Low	101163	EPA 8260B	101192
1279470025	SB30-SS-5	EPA 5030 Low	101163	EPA 8260B	101192
1279470026	SB30-SS-10	EPA 5030 Low	101163	EPA 8260B	101192
1279470027	SB30-SS-15	EPA 5030 Low	101163	EPA 8260B	101192
1279470028	SB31-SS-5	EPA 5030 Low	101292	EPA 8260B	101303
1279470029	SB31-SS-10	EPA 5030 Low	101292	EPA 8260B	101303
1279470030	SB31-SS-15	EPA 5030 Low	101292	EPA 8260B	101303
1279470031	SB32-SS-5	EPA 5030 Low	101292	EPA 8260B	101303
1279470032	SB32-SS-10	EPA 5030 Low	101524	EPA 8260B	101526
1279470033	SB32-SS-15	EPA 5030 Low	101524	EPA 8260B	101526
1279470034	SB32-SS-20	EPA 5030 Low	101524	EPA 8260B	101526
1279470035	SB32-SS-23	EPA 5030 Low	101524	EPA 8260B	101526
1279470036	SB33-SS-5	EPA 5030 Low	101524	EPA 8260B	101526
1279470037	SB33-SS-10	EPA 5030 Low	101524	EPA 8260B	101526
1279470038	SB33-SS-15	EPA 5030 Low	101524	EPA 8260B	101526
1279470042	SB33-SS-17	EPA 5030 Low	101524	EPA 8260B	101526
1279470039	TRIP BLANK 1-112116	EPA 5035/5030B	101351	EPA 8260B	101352
1279470040	TRIP BLANK 2-112116	EPA 5035/5030B	101351	EPA 8260B	101352
1279470041	TRIP BLANK 3-112116	EPA 5035/5030B	101351	EPA 8260B	101352
1279470001	SB25-SS-4	ASTM D 2974-13 (2013)	100917		
1279470002	SB25-SS-8	ASTM D 2974-13 (2013)	100917		
1279470003	SB25-SS-12	ASTM D 2974-13 (2013)	100917		
1279470004	SB25-SS-16	ASTM D 2974-13 (2013)	100917		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR_Freeman
Pace Project No.: 1279470

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1279470005	SB25-SS-20	ASTM D 2974-13 (2013)	100917		
1279470006	SB25-SS-22	ASTM D 2974-13 (2013)	100917		
1279470007	SB26-SS-5	ASTM D 2974-13 (2013)	100917		
1279470008	SB26-SS-10	ASTM D 2974-13 (2013)	100917		
1279470009	SB26-SS-15	ASTM D 2974-13 (2013)	100917		
1279470010	SB26-SS-20	ASTM D 2974-13 (2013)	100917		
1279470011	SB26-SS-25	ASTM D 2974-13 (2013)	100917		
1279470012	SB26-SS-30	ASTM D 2974-13 (2013)	100917		
1279470013	SB26-SS-31	ASTM D 2974-13 (2013)	100917		
1279470014	SB27-SS-5	ASTM D 2974-13 (2013)	100917		
1279470015	SB27-SS-10	ASTM D 2974-13 (2013)	100917		
1279470016	SB27-SS-15	ASTM D 2974-13 (2013)	100917		
1279470017	SB27-SS-19	ASTM D 2974-13 (2013)	100917		
1279470018	SB28-SS-5	ASTM D 2974-13 (2013)	100917		
1279470019	SB28-SS-10	ASTM D 2974-13 (2013)	100917		
1279470020	SB28-SS-15	ASTM D 2974-13 (2013)	100917		
1279470021	SB28-SS-19	ASTM D 2974-13 (2013)	100951		
1279470022	SB29-SS-5	ASTM D 2974-13 (2013)	100951		
1279470023	SB29-SS-10	ASTM D 2974-13 (2013)	100951		
1279470024	SB29-SS-13	ASTM D 2974-13 (2013)	100951		
1279470025	SB30-SS-5	ASTM D 2974-13 (2013)	100951		
1279470026	SB30-SS-10	ASTM D 2974-13 (2013)	100951		
1279470027	SB30-SS-15	ASTM D 2974-13 (2013)	100951		
1279470028	SB31-SS-5	ASTM D 2974-13 (2013)	100951		
1279470029	SB31-SS-10	ASTM D 2974-13 (2013)	100951		
1279470030	SB31-SS-15	ASTM D 2974-13 (2013)	100951		
1279470031	SB32-SS-5	ASTM D 2974-13 (2013)	100951		
1279470032	SB32-SS-10	ASTM D 2974-13 (2013)	100951		
1279470033	SB32-SS-15	ASTM D 2974-13 (2013)	100951		
1279470034	SB32-SS-20	ASTM D 2974-13 (2013)	100951		
1279470035	SB32-SS-23	ASTM D 2974-13 (2013)	100951		
1279470036	SB33-SS-5	ASTM D 2974-13 (2013)	100951		
1279470037	SB33-SS-10	ASTM D 2974-13 (2013)	100951		
1279470038	SB33-SS-15	ASTM D 2974-13 (2013)	100951		
1279470042	SB33-SS-17	ASTM D 2974-13 (2013)	100951		

REPORT OF LABORATORY ANALYSIS

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Document Name: Sample Condition Upon Receipt Form
 Document No.: F-DAV-C-002-rev.02
 Issuing Authority: Pace Davis, CA Quality Office
 Document Revised: 25Feb2015
 Page 1 of 1

Sample Condition Upon Receipt

Client Name: CH2M H.11
 Project #:

Courier: Fed Ex
 Tracking Number: 6662 9805 6751 / 6773 / 6762

Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags
 Temp Blank? Yes No

Thermom. Used: DA1434 DA2285
 Cooler Temp Read (C): 2.6/1.8/0.4
 Cooler Temp Corrected (C): 3.2/2.4/1.0
 Correction Factor: 10.0

Date and Initials of Person Examining Contents: 05/01/22/16

MO#: 1279470
 1279470



Chain of Custody Present? Yes No

Chain of Custody Filled Out? Yes No

Chain of Custody Relinquished? Yes No

Sampler Name and/or Signature on COC? Yes No

Samples Arrived within Hold Time? Yes No

Short Hold Time Analysis (<72 hr)? Yes No

Rush Turn Around Time Requested? Yes No

Sufficient Volume? Yes No

Correct Containers Used? Yes No

Face Containers Used? Yes No

Containers Intact? Yes No

Filtered Volume Received for Dissolved Tests? Yes No

Sample Labels Match COC? Yes No

-Includes Date/Time/ID/Analysis Matrix: Yes No

All containers needing acid/base preservation have been checked? Yes No

All containers needing preservation are found to be in compliance with EPA recommendation? Yes No

Exceptions: VOA, Coliform, TOC, Oil and Grease, (HNO₃, H₂SO₄, HCl<2, NaOH >9 Sulfide, NaOH >12 Cyanide) Yes No

Headspace in VOA Vials (>6mm)? Yes No

Trip Blank Present? Yes No

Trip Blank Custody Seals Present? Yes No

Person Contacted: Brad Ostapkowicz
 Date/Time: 11/28/16

Field Data Required? Yes No

Comments/Resolution: Single vial with no label or identification should be disposed. Additional sample labeled as SB33-SS-17 should be analyzed for 8260 and dry weight. Sample SB25-SS-20 was collected at 12:36

Project Manager Review: JENNI Gross

Date: 11/28/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

August 04, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: UPRR Freeman
Pace Project No.: 10357004

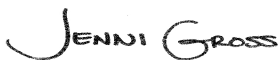
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Client was notified on 07/28/16 Pace is not WA State certified for 8260 analysis for drinking water samples.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR Freeman

Pace Project No.: 10357004

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: UPRR Freeman

Pace Project No.: 10357004

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10357004001	Randall-1607	Water	07/27/16 07:45	07/28/16 09:15
10357004002	Davey-1607	Water	07/27/16 08:15	07/28/16 09:15
10357004003	WS5-1607	Water	07/27/16 08:35	07/28/16 09:15
10357004004	Freeman Store-1607	Water	07/27/16 09:10	07/28/16 09:15
10357004005	W30-1607	Water	07/27/16 09:30	07/28/16 09:15
10357004006	Marlow-1607	Water	07/27/16 09:50	07/28/16 09:15
10357004007	FD1-1607	Water	07/27/16 12:00	07/28/16 09:15

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SAMPLE ANALYTE COUNT

Project: UPRR Freeman

Pace Project No.: 10357004

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10357004001	Randall-1607	EPA 8260B	DJB	83	PASI-M
10357004002	Davey-1607	EPA 8260B	DJB	83	PASI-M
10357004003	WS5-1607	EPA 8260B	DJB	83	PASI-M
10357004004	Freeman Store-1607	EPA 8260B	DJB	83	PASI-M
10357004005	W30-1607	EPA 8260B	DJB	83	PASI-M
10357004006	Marlow-1607	EPA 8260B	DJB	83	PASI-M
10357004007	FD1-1607	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: UPRR Freeman

Pace Project No.: 10357004

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10357004001	Randall-1607					
EPA 8260B	Carbon tetrachloride	324	ug/L	5.0	08/01/16 15:27	
EPA 8260B	Chloroform	12.0	ug/L	5.0	08/01/16 15:27	
10357004002	Davey-1607					
EPA 8260B	Carbon tetrachloride	18.3	ug/L	1.0	08/01/16 13:36	
EPA 8260B	Chloroform	5.3	ug/L	1.0	08/01/16 13:36	
10357004003	WS5-1607					
EPA 8260B	Carbon tetrachloride	4.0	ug/L	1.0	08/01/16 13:14	
EPA 8260B	Chloroform	0.29J	ug/L	1.0	08/01/16 13:14	
10357004006	Marlow-1607					
EPA 8260B	Carbon tetrachloride	120	ug/L	1.0	08/01/16 15:05	
EPA 8260B	Chloroform	8.4	ug/L	1.0	08/01/16 15:05	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman
Pace Project No.: 10357004

Method: EPA 8260B
Description: 8260B MSV Low Level
Client: UPRR_CH2M Hill
Date: August 04, 2016

General Information:

7 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 428164

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2330357)
 - Bromomethane
- Davey-1607 (Lab ID: 10357004002)
 - Bromomethane
- FD1-1607 (Lab ID: 10357004007)
 - Bromomethane
- Freeman Store-1607 (Lab ID: 10357004004)
 - Bromomethane
- LCS (Lab ID: 2330358)
 - Bromomethane
- MS (Lab ID: 2330359)
 - Bromomethane
- MSD (Lab ID: 2330360)
 - Bromomethane
- Marlow-1607 (Lab ID: 10357004006)
 - Bromomethane
- Randall-1607 (Lab ID: 10357004001)
 - Bromomethane
- W30-1607 (Lab ID: 10357004005)
 - Bromomethane
- WS5-1607 (Lab ID: 10357004003)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman

Pace Project No.: 10357004

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: August 04, 2016

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 428164

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10357004003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2330359)
- Hexachloro-1,3-butadiene

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: **Randall-1607** Lab ID: **10357004001** Collected: 07/27/16 07:45 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.32	ug/L	2.5	0.32	5		08/01/16 15:27	630-20-6	
1,1,1-Trichloroethane	<0.28	ug/L	2.5	0.28	5		08/01/16 15:27	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	2.5	0.28	5		08/01/16 15:27	79-34-5	
1,1,2-Trichloroethane	<0.32	ug/L	2.5	0.32	5		08/01/16 15:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.65	ug/L	5.0	0.65	5		08/01/16 15:27	76-13-1	
1,1-Dichloroethane	<0.28	ug/L	2.5	0.28	5		08/01/16 15:27	75-34-3	
1,1-Dichloroethene	<0.34	ug/L	2.5	0.34	5		08/01/16 15:27	75-35-4	
1,1-Dichloropropene	<0.41	ug/L	2.5	0.41	5		08/01/16 15:27	563-58-6	
1,2,3-Trichlorobenzene	<0.85	ug/L	5.0	0.85	5		08/01/16 15:27	87-61-6	
1,2,3-Trichloropropane	<0.95	ug/L	20.0	0.95	5		08/01/16 15:27	96-18-4	
1,2,4-Trichlorobenzene	<0.70	ug/L	2.5	0.70	5		08/01/16 15:27	120-82-1	
1,2,4-Trimethylbenzene	<0.34	ug/L	2.5	0.34	5		08/01/16 15:27	95-63-6	
1,2-Dibromo-3-chloropropane	<3.0	ug/L	20.0	3.0	5		08/01/16 15:27	96-12-8	
1,2-Dibromoethane (EDB)	<0.46	ug/L	2.5	0.46	5		08/01/16 15:27	106-93-4	
1,2-Dichlorobenzene	<0.39	ug/L	2.5	0.39	5		08/01/16 15:27	95-50-1	
1,2-Dichloroethane	<0.36	ug/L	2.5	0.36	5		08/01/16 15:27	107-06-2	
1,2-Dichloroethene (Total)	<0.82	ug/L	5.0	0.82	5		08/01/16 15:27	540-59-0	
1,2-Dichloropropane	<0.33	ug/L	20.0	0.33	5		08/01/16 15:27	78-87-5	
1,3,5-Trimethylbenzene	<0.21	ug/L	2.5	0.21	5		08/01/16 15:27	108-67-8	
1,3-Dichlorobenzene	<0.42	ug/L	2.5	0.42	5		08/01/16 15:27	541-73-1	
1,3-Dichloropropane	<0.30	ug/L	2.5	0.30	5		08/01/16 15:27	142-28-9	
1,4-Dichlorobenzene	<0.40	ug/L	2.5	0.40	5		08/01/16 15:27	106-46-7	
1,4-Dioxane (p-Dioxane)	<24.0	ug/L	1000	24.0	5		08/01/16 15:27	123-91-1	
2,2,4-Trimethylpentane	<0.44	ug/L	20.0	0.44	5		08/01/16 15:27	540-84-1	
2,2-Dichloropropane	<0.48	ug/L	5.0	0.48	5		08/01/16 15:27	594-20-7	
2-Butanone (MEK)	<5.5	ug/L	25.0	5.5	5		08/01/16 15:27	78-93-3	
2-Chlorotoluene	<0.42	ug/L	2.5	0.42	5		08/01/16 15:27	95-49-8	
2-Hexanone	<0.96	ug/L	25.0	0.96	5		08/01/16 15:27	591-78-6	
4-Chlorotoluene	<0.24	ug/L	2.5	0.24	5		08/01/16 15:27	106-43-4	
4-Methyl-2-pentanone (MIBK)	<4.0	ug/L	25.0	4.0	5		08/01/16 15:27	108-10-1	
Acetone	<3.2	ug/L	100	3.2	5		08/01/16 15:27	67-64-1	
Acrolein	<10.5	ug/L	50.0	10.5	5		08/01/16 15:27	107-02-8	
Acrylonitrile	<2.4	ug/L	50.0	2.4	5		08/01/16 15:27	107-13-1	
Benzene	<0.21	ug/L	2.5	0.21	5		08/01/16 15:27	71-43-2	
Bromobenzene	<0.44	ug/L	2.5	0.44	5		08/01/16 15:27	108-86-1	
Bromochloromethane	<0.41	ug/L	5.0	0.41	5		08/01/16 15:27	74-97-5	
Bromodichloromethane	<0.34	ug/L	2.5	0.34	5		08/01/16 15:27	75-27-4	
Bromoform	<0.55	ug/L	20.0	0.55	5		08/01/16 15:27	75-25-2	
Bromomethane	<1.0	ug/L	20.0	1.0	5		08/01/16 15:27	74-83-9	CL
Carbon disulfide	<1.0	ug/L	5.0	1.0	5		08/01/16 15:27	75-15-0	
Carbon tetrachloride	324	ug/L	5.0	0.40	5		08/01/16 15:27	56-23-5	
Chlorobenzene	<0.33	ug/L	2.5	0.33	5		08/01/16 15:27	108-90-7	
Chloroethane	<0.60	ug/L	5.0	0.60	5		08/01/16 15:27	75-00-3	
Chloroform	12.0	ug/L	5.0	1.0	5		08/01/16 15:27	67-66-3	
Chloromethane	<0.40	ug/L	20.0	0.40	5		08/01/16 15:27	74-87-3	
Dibromochloromethane	<0.24	ug/L	2.5	0.24	5		08/01/16 15:27	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Randall-1607 **Lab ID: 10357004001** Collected: 07/27/16 07:45 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.70	ug/L	5.0	0.70	5		08/01/16 15:27	74-95-3	
Dichlorodifluoromethane	<0.38	ug/L	5.0	0.38	5		08/01/16 15:27	75-71-8	
Dichlorofluoromethane	<0.27	ug/L	5.0	0.27	5		08/01/16 15:27	75-43-4	
Diisopropyl ether	<0.25	ug/L	5.0	0.25	5		08/01/16 15:27	108-20-3	
Ethyl-tert-butyl ether	<0.31	ug/L	2.5	0.31	5		08/01/16 15:27	637-92-3	
Ethylbenzene	<0.38	ug/L	2.5	0.38	5		08/01/16 15:27	100-41-4	
Hexachloro-1,3-butadiene	<0.65	ug/L	5.0	0.65	5		08/01/16 15:27	87-68-3	
Isopropylbenzene (Cumene)	<0.32	ug/L	2.5	0.32	5		08/01/16 15:27	98-82-8	
Methyl-tert-butyl ether	<0.24	ug/L	2.5	0.24	5		08/01/16 15:27	1634-04-4	
Methylene Chloride	<0.48	ug/L	20.0	0.48	5		08/01/16 15:27	75-09-2	
Naphthalene	<0.32	ug/L	5.0	0.32	5		08/01/16 15:27	91-20-3	
Styrene	<0.28	ug/L	2.5	0.28	5		08/01/16 15:27	100-42-5	
Tetrachloroethene	<0.65	ug/L	2.5	0.65	5		08/01/16 15:27	127-18-4	
Tetrahydrofuran	<7.5	ug/L	50.0	7.5	5		08/01/16 15:27	109-99-9	
Toluene	<0.30	ug/L	2.5	0.30	5		08/01/16 15:27	108-88-3	
Trichloroethene	<0.26	ug/L	2.0	0.26	5		08/01/16 15:27	79-01-6	
Trichlorofluoromethane	<0.28	ug/L	2.5	0.28	5		08/01/16 15:27	75-69-4	
Vinyl acetate	<0.60	ug/L	50.0	0.60	5		08/01/16 15:27	108-05-4	
Vinyl chloride	<0.42	ug/L	1.0	0.42	5		08/01/16 15:27	75-01-4	
Xylene (Total)	<0.77	ug/L	7.5	0.77	5		08/01/16 15:27	1330-20-7	
cis-1,2-Dichloroethene	<0.60	ug/L	2.5	0.60	5		08/01/16 15:27	156-59-2	
cis-1,3-Dichloropropene	<0.34	ug/L	2.5	0.34	5		08/01/16 15:27	10061-01-5	
m&p-Xylene	<0.55	ug/L	5.0	0.55	5		08/01/16 15:27	179601-23-1	
n-Butylbenzene	<0.80	ug/L	2.5	0.80	5		08/01/16 15:27	104-51-8	
n-Propylbenzene	<0.24	ug/L	2.5	0.24	5		08/01/16 15:27	103-65-1	
o-Xylene	<0.22	ug/L	2.5	0.22	5		08/01/16 15:27	95-47-6	
p-Isopropyltoluene	<0.32	ug/L	2.5	0.32	5		08/01/16 15:27	99-87-6	
sec-Butylbenzene	<0.47	ug/L	2.5	0.47	5		08/01/16 15:27	135-98-8	
tert-Amylmethyl ether	<0.36	ug/L	2.5	0.36	5		08/01/16 15:27	994-05-8	
tert-Butyl Alcohol	<4.4	ug/L	50.0	4.4	5		08/01/16 15:27	75-65-0	
tert-Butylbenzene	<0.26	ug/L	2.5	0.26	5		08/01/16 15:27	98-06-6	
trans-1,2-Dichloroethene	<0.75	ug/L	2.5	0.75	5		08/01/16 15:27	156-60-5	
trans-1,3-Dichloropropene	<0.22	ug/L	2.5	0.22	5		08/01/16 15:27	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.2	ug/L	50.0	2.2	5		08/01/16 15:27	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		5		08/01/16 15:27	17060-07-0	
Toluene-d8 (S)	110	%	75-125		5		08/01/16 15:27	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		5		08/01/16 15:27	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Davey-1607 Lab ID: 10357004002 Collected: 07/27/16 08:15 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 13:36	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		08/01/16 13:36	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:36	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 13:36	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		08/01/16 13:36	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:36	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		08/01/16 13:36	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		08/01/16 13:36	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/01/16 13:36	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		08/01/16 13:36	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/01/16 13:36	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		08/01/16 13:36	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		08/01/16 13:36	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		08/01/16 13:36	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		08/01/16 13:36	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		08/01/16 13:36	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		08/01/16 13:36	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		08/01/16 13:36	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		08/01/16 13:36	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		08/01/16 13:36	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		08/01/16 13:36	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		08/01/16 13:36	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		08/01/16 13:36	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		08/01/16 13:36	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/01/16 13:36	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/01/16 13:36	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		08/01/16 13:36	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		08/01/16 13:36	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		08/01/16 13:36	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		08/01/16 13:36	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		08/01/16 13:36	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		08/01/16 13:36	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		08/01/16 13:36	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		08/01/16 13:36	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		08/01/16 13:36	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		08/01/16 13:36	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		08/01/16 13:36	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		08/01/16 13:36	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		08/01/16 13:36	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		08/01/16 13:36	75-15-0	
Carbon tetrachloride	18.3	ug/L	1.0	0.079	1		08/01/16 13:36	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		08/01/16 13:36	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		08/01/16 13:36	75-00-3	
Chloroform	5.3	ug/L	1.0	0.21	1		08/01/16 13:36	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		08/01/16 13:36	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		08/01/16 13:36	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Davey-1607 **Lab ID: 10357004002** Collected: 07/27/16 08:15 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		08/01/16 13:36	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		08/01/16 13:36	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		08/01/16 13:36	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		08/01/16 13:36	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		08/01/16 13:36	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		08/01/16 13:36	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		08/01/16 13:36	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		08/01/16 13:36	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		08/01/16 13:36	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		08/01/16 13:36	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		08/01/16 13:36	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		08/01/16 13:36	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		08/01/16 13:36	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/01/16 13:36	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		08/01/16 13:36	108-88-3	
Trichloroethene	<0.051	ug/L	0.40	0.051	1		08/01/16 13:36	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:36	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		08/01/16 13:36	108-05-4	
Vinyl chloride	<0.084	ug/L	0.20	0.084	1		08/01/16 13:36	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		08/01/16 13:36	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/01/16 13:36	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		08/01/16 13:36	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		08/01/16 13:36	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		08/01/16 13:36	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		08/01/16 13:36	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		08/01/16 13:36	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/01/16 13:36	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		08/01/16 13:36	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		08/01/16 13:36	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		08/01/16 13:36	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		08/01/16 13:36	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/01/16 13:36	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		08/01/16 13:36	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		08/01/16 13:36	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		08/01/16 13:36	17060-07-0	
Toluene-d8 (S)	111	%	75-125		1		08/01/16 13:36	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		08/01/16 13:36	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: **WS5-1607** Lab ID: **10357004003** Collected: 07/27/16 08:35 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 13:14	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		08/01/16 13:14	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:14	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 13:14	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		08/01/16 13:14	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:14	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		08/01/16 13:14	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		08/01/16 13:14	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/01/16 13:14	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		08/01/16 13:14	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/01/16 13:14	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		08/01/16 13:14	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		08/01/16 13:14	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		08/01/16 13:14	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		08/01/16 13:14	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		08/01/16 13:14	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		08/01/16 13:14	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		08/01/16 13:14	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		08/01/16 13:14	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		08/01/16 13:14	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		08/01/16 13:14	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		08/01/16 13:14	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		08/01/16 13:14	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		08/01/16 13:14	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/01/16 13:14	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/01/16 13:14	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		08/01/16 13:14	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		08/01/16 13:14	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		08/01/16 13:14	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		08/01/16 13:14	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		08/01/16 13:14	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		08/01/16 13:14	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		08/01/16 13:14	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		08/01/16 13:14	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		08/01/16 13:14	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		08/01/16 13:14	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		08/01/16 13:14	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		08/01/16 13:14	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		08/01/16 13:14	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		08/01/16 13:14	75-15-0	
Carbon tetrachloride	4.0	ug/L	1.0	0.079	1		08/01/16 13:14	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		08/01/16 13:14	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		08/01/16 13:14	75-00-3	
Chloroform	0.29J	ug/L	1.0	0.21	1		08/01/16 13:14	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		08/01/16 13:14	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		08/01/16 13:14	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: **WS5-1607** Lab ID: **10357004003** Collected: 07/27/16 08:35 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		08/01/16 13:14	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		08/01/16 13:14	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		08/01/16 13:14	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		08/01/16 13:14	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		08/01/16 13:14	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		08/01/16 13:14	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		08/01/16 13:14	87-68-3	M1
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		08/01/16 13:14	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		08/01/16 13:14	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		08/01/16 13:14	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		08/01/16 13:14	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		08/01/16 13:14	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		08/01/16 13:14	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/01/16 13:14	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		08/01/16 13:14	108-88-3	
Trichloroethene	<0.051	ug/L	0.40	0.051	1		08/01/16 13:14	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:14	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		08/01/16 13:14	108-05-4	
Vinyl chloride	<0.084	ug/L	0.20	0.084	1		08/01/16 13:14	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		08/01/16 13:14	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/01/16 13:14	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		08/01/16 13:14	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		08/01/16 13:14	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		08/01/16 13:14	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		08/01/16 13:14	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		08/01/16 13:14	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/01/16 13:14	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		08/01/16 13:14	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		08/01/16 13:14	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		08/01/16 13:14	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		08/01/16 13:14	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/01/16 13:14	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		08/01/16 13:14	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		08/01/16 13:14	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		08/01/16 13:14	17060-07-0	
Toluene-d8 (S)	111	%	75-125		1		08/01/16 13:14	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		08/01/16 13:14	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Freeman Store-1607 Lab ID: 10357004004 Collected: 07/27/16 09:10 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 13:58	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		08/01/16 13:58	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:58	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 13:58	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		08/01/16 13:58	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:58	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		08/01/16 13:58	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		08/01/16 13:58	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/01/16 13:58	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		08/01/16 13:58	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/01/16 13:58	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		08/01/16 13:58	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		08/01/16 13:58	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		08/01/16 13:58	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		08/01/16 13:58	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		08/01/16 13:58	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		08/01/16 13:58	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		08/01/16 13:58	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		08/01/16 13:58	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		08/01/16 13:58	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		08/01/16 13:58	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		08/01/16 13:58	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		08/01/16 13:58	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		08/01/16 13:58	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/01/16 13:58	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/01/16 13:58	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		08/01/16 13:58	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		08/01/16 13:58	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		08/01/16 13:58	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		08/01/16 13:58	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		08/01/16 13:58	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		08/01/16 13:58	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		08/01/16 13:58	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		08/01/16 13:58	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		08/01/16 13:58	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		08/01/16 13:58	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		08/01/16 13:58	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		08/01/16 13:58	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		08/01/16 13:58	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		08/01/16 13:58	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		08/01/16 13:58	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		08/01/16 13:58	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		08/01/16 13:58	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/01/16 13:58	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		08/01/16 13:58	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		08/01/16 13:58	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Freeman Store-1607 **Lab ID: 10357004004** Collected: 07/27/16 09:10 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		08/01/16 13:58	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		08/01/16 13:58	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		08/01/16 13:58	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		08/01/16 13:58	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		08/01/16 13:58	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		08/01/16 13:58	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		08/01/16 13:58	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		08/01/16 13:58	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		08/01/16 13:58	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		08/01/16 13:58	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		08/01/16 13:58	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		08/01/16 13:58	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		08/01/16 13:58	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/01/16 13:58	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		08/01/16 13:58	108-88-3	
Trichloroethene	<0.051	ug/L	0.40	0.051	1		08/01/16 13:58	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		08/01/16 13:58	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		08/01/16 13:58	108-05-4	
Vinyl chloride	<0.084	ug/L	0.20	0.084	1		08/01/16 13:58	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		08/01/16 13:58	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/01/16 13:58	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		08/01/16 13:58	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		08/01/16 13:58	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		08/01/16 13:58	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		08/01/16 13:58	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		08/01/16 13:58	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/01/16 13:58	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		08/01/16 13:58	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		08/01/16 13:58	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		08/01/16 13:58	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		08/01/16 13:58	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/01/16 13:58	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		08/01/16 13:58	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		08/01/16 13:58	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		08/01/16 13:58	17060-07-0	
Toluene-d8 (S)	107	%	75-125		1		08/01/16 13:58	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		08/01/16 13:58	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: **W30-1607** Lab ID: **10357004005** Collected: 07/27/16 09:30 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 14:20	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		08/01/16 14:20	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 14:20	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 14:20	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		08/01/16 14:20	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 14:20	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		08/01/16 14:20	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		08/01/16 14:20	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/01/16 14:20	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		08/01/16 14:20	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/01/16 14:20	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		08/01/16 14:20	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		08/01/16 14:20	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		08/01/16 14:20	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		08/01/16 14:20	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		08/01/16 14:20	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		08/01/16 14:20	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		08/01/16 14:20	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		08/01/16 14:20	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		08/01/16 14:20	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		08/01/16 14:20	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		08/01/16 14:20	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		08/01/16 14:20	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		08/01/16 14:20	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/01/16 14:20	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/01/16 14:20	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		08/01/16 14:20	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		08/01/16 14:20	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		08/01/16 14:20	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		08/01/16 14:20	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		08/01/16 14:20	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		08/01/16 14:20	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		08/01/16 14:20	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		08/01/16 14:20	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		08/01/16 14:20	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		08/01/16 14:20	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		08/01/16 14:20	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		08/01/16 14:20	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		08/01/16 14:20	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		08/01/16 14:20	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		08/01/16 14:20	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		08/01/16 14:20	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		08/01/16 14:20	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/01/16 14:20	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		08/01/16 14:20	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		08/01/16 14:20	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: **W30-1607** Lab ID: **10357004005** Collected: 07/27/16 09:30 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		08/01/16 14:20	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		08/01/16 14:20	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		08/01/16 14:20	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		08/01/16 14:20	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		08/01/16 14:20	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		08/01/16 14:20	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		08/01/16 14:20	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		08/01/16 14:20	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		08/01/16 14:20	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		08/01/16 14:20	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		08/01/16 14:20	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		08/01/16 14:20	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		08/01/16 14:20	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/01/16 14:20	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		08/01/16 14:20	108-88-3	
Trichloroethene	<0.051	ug/L	0.40	0.051	1		08/01/16 14:20	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		08/01/16 14:20	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		08/01/16 14:20	108-05-4	
Vinyl chloride	<0.084	ug/L	0.20	0.084	1		08/01/16 14:20	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		08/01/16 14:20	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/01/16 14:20	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		08/01/16 14:20	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		08/01/16 14:20	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		08/01/16 14:20	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		08/01/16 14:20	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		08/01/16 14:20	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/01/16 14:20	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		08/01/16 14:20	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		08/01/16 14:20	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		08/01/16 14:20	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		08/01/16 14:20	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/01/16 14:20	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		08/01/16 14:20	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		08/01/16 14:20	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		08/01/16 14:20	17060-07-0	
Toluene-d8 (S)	112	%	75-125		1		08/01/16 14:20	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		08/01/16 14:20	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Marlow-1607 Lab ID: 10357004006 Collected: 07/27/16 09:50 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 15:05	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		08/01/16 15:05	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 15:05	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 15:05	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		08/01/16 15:05	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 15:05	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		08/01/16 15:05	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		08/01/16 15:05	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/01/16 15:05	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		08/01/16 15:05	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/01/16 15:05	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		08/01/16 15:05	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		08/01/16 15:05	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		08/01/16 15:05	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		08/01/16 15:05	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		08/01/16 15:05	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		08/01/16 15:05	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		08/01/16 15:05	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		08/01/16 15:05	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		08/01/16 15:05	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		08/01/16 15:05	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		08/01/16 15:05	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		08/01/16 15:05	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		08/01/16 15:05	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/01/16 15:05	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/01/16 15:05	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		08/01/16 15:05	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		08/01/16 15:05	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		08/01/16 15:05	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		08/01/16 15:05	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		08/01/16 15:05	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		08/01/16 15:05	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		08/01/16 15:05	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		08/01/16 15:05	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		08/01/16 15:05	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		08/01/16 15:05	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		08/01/16 15:05	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		08/01/16 15:05	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		08/01/16 15:05	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		08/01/16 15:05	75-15-0	
Carbon tetrachloride	120	ug/L	1.0	0.079	1		08/01/16 15:05	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		08/01/16 15:05	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		08/01/16 15:05	75-00-3	
Chloroform	8.4	ug/L	1.0	0.21	1		08/01/16 15:05	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		08/01/16 15:05	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		08/01/16 15:05	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: Marlow-1607 **Lab ID: 10357004006** Collected: 07/27/16 09:50 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		08/01/16 15:05	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		08/01/16 15:05	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		08/01/16 15:05	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		08/01/16 15:05	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		08/01/16 15:05	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		08/01/16 15:05	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		08/01/16 15:05	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		08/01/16 15:05	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		08/01/16 15:05	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		08/01/16 15:05	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		08/01/16 15:05	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		08/01/16 15:05	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		08/01/16 15:05	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/01/16 15:05	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		08/01/16 15:05	108-88-3	
Trichloroethene	<0.051	ug/L	0.40	0.051	1		08/01/16 15:05	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		08/01/16 15:05	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		08/01/16 15:05	108-05-4	
Vinyl chloride	<0.084	ug/L	0.20	0.084	1		08/01/16 15:05	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		08/01/16 15:05	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/01/16 15:05	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		08/01/16 15:05	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		08/01/16 15:05	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		08/01/16 15:05	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		08/01/16 15:05	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		08/01/16 15:05	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/01/16 15:05	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		08/01/16 15:05	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		08/01/16 15:05	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		08/01/16 15:05	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		08/01/16 15:05	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/01/16 15:05	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		08/01/16 15:05	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		08/01/16 15:05	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	75-125		1		08/01/16 15:05	17060-07-0	
Toluene-d8 (S)	111	%	75-125		1		08/01/16 15:05	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		08/01/16 15:05	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10357004

Sample: FD1-1607 **Lab ID: 10357004007** Collected: 07/27/16 12:00 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 14:43	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		08/01/16 14:43	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 14:43	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		08/01/16 14:43	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		08/01/16 14:43	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		08/01/16 14:43	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		08/01/16 14:43	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		08/01/16 14:43	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/01/16 14:43	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		08/01/16 14:43	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		08/01/16 14:43	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		08/01/16 14:43	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		08/01/16 14:43	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		08/01/16 14:43	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		08/01/16 14:43	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		08/01/16 14:43	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		08/01/16 14:43	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		08/01/16 14:43	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		08/01/16 14:43	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		08/01/16 14:43	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		08/01/16 14:43	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		08/01/16 14:43	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		08/01/16 14:43	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		08/01/16 14:43	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/01/16 14:43	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/01/16 14:43	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		08/01/16 14:43	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		08/01/16 14:43	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		08/01/16 14:43	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		08/01/16 14:43	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		08/01/16 14:43	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		08/01/16 14:43	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		08/01/16 14:43	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		08/01/16 14:43	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		08/01/16 14:43	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		08/01/16 14:43	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		08/01/16 14:43	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		08/01/16 14:43	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		08/01/16 14:43	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		08/01/16 14:43	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		08/01/16 14:43	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		08/01/16 14:43	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		08/01/16 14:43	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/01/16 14:43	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		08/01/16 14:43	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		08/01/16 14:43	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman
Pace Project No.: 10357004

Sample: FD1-1607 **Lab ID: 10357004007** Collected: 07/27/16 12:00 Received: 07/28/16 09:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		08/01/16 14:43	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		08/01/16 14:43	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		08/01/16 14:43	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		08/01/16 14:43	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		08/01/16 14:43	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		08/01/16 14:43	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		08/01/16 14:43	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		08/01/16 14:43	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		08/01/16 14:43	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		08/01/16 14:43	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		08/01/16 14:43	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		08/01/16 14:43	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		08/01/16 14:43	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/01/16 14:43	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		08/01/16 14:43	108-88-3	
Trichloroethene	<0.051	ug/L	0.40	0.051	1		08/01/16 14:43	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		08/01/16 14:43	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		08/01/16 14:43	108-05-4	
Vinyl chloride	<0.084	ug/L	0.20	0.084	1		08/01/16 14:43	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		08/01/16 14:43	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		08/01/16 14:43	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		08/01/16 14:43	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		08/01/16 14:43	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		08/01/16 14:43	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		08/01/16 14:43	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		08/01/16 14:43	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		08/01/16 14:43	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		08/01/16 14:43	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		08/01/16 14:43	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		08/01/16 14:43	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		08/01/16 14:43	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		08/01/16 14:43	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		08/01/16 14:43	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		08/01/16 14:43	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	113	%	75-125		1		08/01/16 14:43	17060-07-0	
Toluene-d8 (S)	111	%	75-125		1		08/01/16 14:43	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		08/01/16 14:43	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10357004

QC Batch: 428164 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10357004001, 10357004002, 10357004003, 10357004004, 10357004005, 10357004006, 10357004007

METHOD BLANK: 2330357 Matrix: Water
Associated Lab Samples: 10357004001, 10357004002, 10357004003, 10357004004, 10357004005, 10357004006, 10357004007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	08/01/16 11:45	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	08/01/16 11:45	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	08/01/16 11:45	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	08/01/16 11:45	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	08/01/16 11:45	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	08/01/16 11:45	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	08/01/16 11:45	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	08/01/16 11:45	
1,2,3-Trichlorobenzene	ug/L	<0.17	1.0	0.17	08/01/16 11:45	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	08/01/16 11:45	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	08/01/16 11:45	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	08/01/16 11:45	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	08/01/16 11:45	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	08/01/16 11:45	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	08/01/16 11:45	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	08/01/16 11:45	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	08/01/16 11:45	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	08/01/16 11:45	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	08/01/16 11:45	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	08/01/16 11:45	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	08/01/16 11:45	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	08/01/16 11:45	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	08/01/16 11:45	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	08/01/16 11:45	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	08/01/16 11:45	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	08/01/16 11:45	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	08/01/16 11:45	
2-Hexanone	ug/L	<0.19	5.0	0.19	08/01/16 11:45	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	08/01/16 11:45	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	08/01/16 11:45	
Acetone	ug/L	<0.64	20.0	0.64	08/01/16 11:45	
Acrolein	ug/L	<2.1	10.0	2.1	08/01/16 11:45	
Acrylonitrile	ug/L	<0.49	10.0	0.49	08/01/16 11:45	
Benzene	ug/L	<0.042	0.50	0.042	08/01/16 11:45	
Bromobenzene	ug/L	<0.087	0.50	0.087	08/01/16 11:45	
Bromochloromethane	ug/L	<0.082	1.0	0.082	08/01/16 11:45	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	08/01/16 11:45	
Bromoform	ug/L	<0.11	4.0	0.11	08/01/16 11:45	
Bromomethane	ug/L	<0.20	4.0	0.20	08/01/16 11:45	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	08/01/16 11:45	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	08/01/16 11:45	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10357004

METHOD BLANK: 2330357

Matrix: Water

Associated Lab Samples: 10357004001, 10357004002, 10357004003, 10357004004, 10357004005, 10357004006, 10357004007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	08/01/16 11:45	
Chloroethane	ug/L	<0.12	1.0	0.12	08/01/16 11:45	
Chloroform	ug/L	<0.21	1.0	0.21	08/01/16 11:45	
Chloromethane	ug/L	<0.080	4.0	0.080	08/01/16 11:45	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	08/01/16 11:45	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	08/01/16 11:45	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	08/01/16 11:45	
Dibromomethane	ug/L	<0.14	1.0	0.14	08/01/16 11:45	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	08/01/16 11:45	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	08/01/16 11:45	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	08/01/16 11:45	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	08/01/16 11:45	
Ethylbenzene	ug/L	<0.075	0.50	0.075	08/01/16 11:45	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	08/01/16 11:45	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	08/01/16 11:45	
m&p-Xylene	ug/L	<0.11	1.0	0.11	08/01/16 11:45	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	08/01/16 11:45	
Methylene Chloride	ug/L	<0.097	4.0	0.097	08/01/16 11:45	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	08/01/16 11:45	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	08/01/16 11:45	
Naphthalene	ug/L	<0.064	1.0	0.064	08/01/16 11:45	
o-Xylene	ug/L	<0.044	0.50	0.044	08/01/16 11:45	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	08/01/16 11:45	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	08/01/16 11:45	
Styrene	ug/L	<0.056	0.50	0.056	08/01/16 11:45	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	08/01/16 11:45	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	08/01/16 11:45	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	08/01/16 11:45	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	08/01/16 11:45	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	08/01/16 11:45	
Toluene	ug/L	<0.059	0.50	0.059	08/01/16 11:45	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	08/01/16 11:45	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	08/01/16 11:45	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	08/01/16 11:45	
Trichloroethene	ug/L	<0.051	0.40	0.051	08/01/16 11:45	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	08/01/16 11:45	
Vinyl acetate	ug/L	<0.12	10.0	0.12	08/01/16 11:45	
Vinyl chloride	ug/L	<0.084	0.20	0.084	08/01/16 11:45	
Xylene (Total)	ug/L	<0.15	1.5	0.15	08/01/16 11:45	
1,2-Dichloroethane-d4 (S)	%	111	75-125		08/01/16 11:45	
4-Bromofluorobenzene (S)	%	102	75-125		08/01/16 11:45	
Toluene-d8 (S)	%	109	75-125		08/01/16 11:45	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10357004

LABORATORY CONTROL SAMPLE: 2330358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.5	108	75-125	
1,1,1-Trichloroethane	ug/L	20	18.2	91	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	22.9	115	67-131	
1,1,2-Trichloroethane	ug/L	20	19.3	96	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.1	95	75-125	
1,1-Dichloroethane	ug/L	20	16.7	83	74-125	
1,1-Dichloroethene	ug/L	20	17.4	87	74-125	
1,1-Dichloropropene	ug/L	20	17.5	87	74-125	
1,2,3-Trichlorobenzene	ug/L	20	21.4	107	63-131	
1,2,3-Trichloropropane	ug/L	20	22.2	111	73-125	
1,2,4-Trichlorobenzene	ug/L	20	21.8	109	66-126	
1,2,4-Trimethylbenzene	ug/L	20	22.4	112	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	55.6	111	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.1	100	75-125	
1,2-Dichlorobenzene	ug/L	20	21.6	108	75-125	
1,2-Dichloroethane	ug/L	20	17.9	89	75-125	
1,2-Dichloroethene (Total)	ug/L	40	34.8	87	75-125	
1,2-Dichloropropane	ug/L	20	18.0	90	75-125	
1,3,5-Trimethylbenzene	ug/L	20	22.2	111	73-127	
1,3-Dichlorobenzene	ug/L	20	21.9	110	75-125	
1,3-Dichloropropane	ug/L	20	20.2	101	69-125	
1,4-Dichlorobenzene	ug/L	20	20.7	104	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	388	97	70-130	
2,2,4-Trimethylpentane	ug/L	20	19.7	98	67-138	
2,2-Dichloropropane	ug/L	20	18.3	92	69-125	
2-Butanone (MEK)	ug/L	100	85.4	85	48-145	
2-Chlorotoluene	ug/L	20	22.1	111	74-125	
2-Hexanone	ug/L	100	102	102	63-135	
4-Chlorotoluene	ug/L	20	21.0	105	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	53-138	
Acetone	ug/L	100	75.9	76	70-142	
Acrolein	ug/L	200	166	83	44-150	
Acrylonitrile	ug/L	200	178	89	68-125	
Benzene	ug/L	20	16.6	83	65-125	
Bromobenzene	ug/L	20	22.4	112	75-125	
Bromochloromethane	ug/L	20	18.5	92	75-125	
Bromodichloromethane	ug/L	20	19.0	95	73-125	
Bromoform	ug/L	20	19.1	95	69-125	
Bromomethane	ug/L	20	10.6	53	40-136	CL
Carbon disulfide	ug/L	20	18.7	93	36-150	
Carbon tetrachloride	ug/L	20	18.7	93	70-125	
Chlorobenzene	ug/L	20	19.7	99	75-125	
Chloroethane	ug/L	20	19.2	96	67-141	
Chloroform	ug/L	20	18.8	94	75-125	
Chloromethane	ug/L	20	17.3	87	50-150	
cis-1,2-Dichloroethene	ug/L	20	17.6	88	75-125	
cis-1,3-Dichloropropene	ug/L	20	18.8	94	75-125	

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10357004

LABORATORY CONTROL SAMPLE: 2330358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	21.2	106	75-125	
Dibromomethane	ug/L	20	18.3	91	75-129	
Dichlorodifluoromethane	ug/L	20	17.1	86	59-135	
Dichlorofluoromethane	ug/L	20	17.7	89	74-130	
Diisopropyl ether	ug/L	20	18.9	94	71-125	
Ethyl-tert-butyl ether	ug/L	20	17.5	87	70-130	
Ethylbenzene	ug/L	20	19.3	97	75-125	
Hexachloro-1,3-butadiene	ug/L	20	23.1	116	72-126	
Isopropylbenzene (Cumene)	ug/L	20	19.9	99	71-136	
m&p-Xylene	ug/L	40	40.8	102	75-125	
Methyl-tert-butyl ether	ug/L	20	17.6	88	73-127	
Methylene Chloride	ug/L	20	17.8	89	68-128	
n-Butylbenzene	ug/L	20	22.1	111	70-126	
n-Propylbenzene	ug/L	20	20.9	105	67-131	
Naphthalene	ug/L	20	22.2	111	52-134	
o-Xylene	ug/L	20	19.9	100	75-125	
p-Isopropyltoluene	ug/L	20	23.7	118	74-125	
sec-Butylbenzene	ug/L	20	21.7	109	69-134	
Styrene	ug/L	20	21.2	106	75-125	
tert-Amylmethyl ether	ug/L	20	19.1	96	70-130	
tert-Butyl Alcohol	ug/L	200	178	89	66-128	
tert-Butylbenzene	ug/L	20	20.6	103	71-128	
Tetrachloroethene	ug/L	20	20.1	101	74-125	
Tetrahydrofuran	ug/L	200	159	79	64-142	
Toluene	ug/L	20	19.6	98	75-125	
trans-1,2-Dichloroethene	ug/L	20	17.2	86	73-125	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	51.2	102	54-133	
Trichloroethene	ug/L	20	17.8	89	75-125	
Trichlorofluoromethane	ug/L	20	17.5	87	75-126	
Vinyl acetate	ug/L	20	17.5	88	67-126	
Vinyl chloride	ug/L	20	16.7	83	72-125	
Xylene (Total)	ug/L	60	60.7	101	75-125	
1,2-Dichloroethane-d4 (S)	%			107	75-125	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			111	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2330359 2330360

Parameter	Units	10357004003		MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result						
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	20	21.1	20.2	106	101	75-127	4	30	
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20	19.7	18.1	98	91	66-142	8	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	20	23.1	21.2	115	106	70-131	8	30	
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20	18.7	18.4	94	92	75-128	2	30	

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10357004

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2330359		2330360		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10357004003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	23.5	21.8	118	109	54-150	7	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	17.4	16.2	87	81	58-147	7	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	19.7	18.7	99	93	49-150	5	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	19.3	17.2	96	86	58-147	11	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	23.2	22.3	116	112	57-139	4	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	21.8	20.9	109	104	71-127	4	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	23.5	22.3	118	111	55-136	5	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	22.6	21.8	113	109	67-138	4	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	54.8	54.5	110	109	63-136	1	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	19.5	19.0	97	95	74-125	3	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	21.8	20.6	109	103	75-125	6	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	17.8	16.6	89	83	63-133	7	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	36.7	33.9	92	85	55-146	8	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	18.2	17.7	91	89	63-138	3	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	22.4	21.7	112	108	69-136	3	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	21.3	20.2	107	101	75-125	5	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	19.4	18.9	97	95	65-135	3	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	20.8	20.3	104	102	70-126	2	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	414	425	103	106	54-145	3	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	26.0	22.4	130	112	30-150	15	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	19.8	18.1	99	91	39-148	9	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	85.3	80.2	85	80	50-144	6	30		
2-Chlorotoluene	ug/L	<0.084	20	20	21.9	21.5	109	107	71-135	2	30		
2-Hexanone	ug/L	<0.19	100	100	99.8	98.1	100	98	43-150	2	30		
4-Chlorotoluene	ug/L	<0.048	20	20	20.9	20.6	104	103	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	99.3	97.0	99	97	60-147	2	30		
Acetone	ug/L	<0.64	100	100	80.1	78.4	80	78	59-150	2	30		
Acrolein	ug/L	<2.1	200	200	225	215	112	108	30-150	4	30		
Acrylonitrile	ug/L	<0.49	200	200	174	165	87	82	41-148	5	30		
Benzene	ug/L	<0.042	20	20	17.5	16.5	87	82	61-138	6	30		
Bromobenzene	ug/L	<0.087	20	20	22.3	21.3	112	106	74-130	5	30		
Bromochloromethane	ug/L	<0.082	20	20	18.8	17.4	94	87	65-137	8	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.2	18.5	96	92	66-136	4	30		
Bromoform	ug/L	<0.11	20	20	19.1	17.9	96	90	71-125	6	30		
Bromomethane	ug/L	<0.20	20	20	15.1	15.2	76	76	30-150	1	30	CL	
Carbon disulfide	ug/L	<0.20	20	20	20.7	19.1	103	96	30-150	8	30		
Carbon tetrachloride	ug/L	4.0	20	20	25.7	23.6	109	98	68-140	9	30		
Chlorobenzene	ug/L	<0.066	20	20	19.8	19.5	99	97	75-132	1	30		
Chloroethane	ug/L	<0.12	20	20	21.3	20.1	107	100	55-150	6	30		
Chloroform	ug/L	0.29J	20	20	18.9	17.9	93	88	64-139	6	30		
Chloromethane	ug/L	<0.080	20	20	18.0	16.8	90	84	73-150	7	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	18.0	16.9	90	85	62-138	6	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	17.8	17.9	89	89	70-125	0	30		
Dibromochloromethane	ug/L	<0.048	20	20	20.7	20.2	104	101	74-125	3	30		

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10357004

Parameter	Units	2330359		2330360		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10357004003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	<0.14	20	20	18.6	17.9	93	89	66-138	4	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	21.8	20.7	109	103	53-150	5	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	19.6	18.4	98	92	58-150	6	30		
Diisopropyl ether	ug/L	<0.050	20	20	18.6	17.8	93	89	50-139	4	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	17.6	16.7	88	84	30-140	5	30		
Ethylbenzene	ug/L	<0.075	20	20	19.2	19.0	96	95	66-141	1	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	28.0	26.3	140	131	63-139	6	30	M1	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	19.8	19.5	99	98	65-146	1	30		
m&p-Xylene	ug/L	<0.11	40	40	39.9	39.2	100	98	72-142	2	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	18.0	16.6	90	83	63-134	8	30		
Methylene Chloride	ug/L	<0.097	20	20	18.5	17.2	93	86	49-143	7	30		
n-Butylbenzene	ug/L	<0.16	20	20	23.9	22.2	119	111	67-134	7	30		
n-Propylbenzene	ug/L	<0.049	20	20	21.2	20.5	106	103	62-142	3	30		
Naphthalene	ug/L	<0.064	20	20	22.3	21.5	111	107	41-150	4	30		
o-Xylene	ug/L	<0.044	20	20	19.7	19.0	99	95	66-138	4	30		
p-Isopropyltoluene	ug/L	<0.064	20	20	25.4	23.7	127	118	64-137	7	30		
sec-Butylbenzene	ug/L	<0.094	20	20	22.9	21.9	115	109	65-142	5	30		
Styrene	ug/L	<0.056	20	20	20.6	20.7	103	104	61-142	1	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.3	17.8	96	89	65-125	8	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	191	192	96	96	59-138	0	30		
tert-Butylbenzene	ug/L	<0.051	20	20	21.5	20.6	108	103	69-135	4	30		
Tetrachloroethene	ug/L	<0.13	20	20	20.8	20.5	104	102	62-142	2	30		
Tetrahydrofuran	ug/L	<1.5	200	200	162	156	81	78	55-150	4	30		
Toluene	ug/L	<0.059	20	20	19.8	19.5	99	98	66-132	1	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	18.6	17.0	93	85	48-150	9	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	20.2	19.5	101	97	65-130	4	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	50.6	49.9	101	100	31-150	1	30		
Trichloroethene	ug/L	<0.051	20	20	18.7	18.0	94	90	64-142	4	30		
Trichlorofluoromethane	ug/L	<0.055	20	20	21.4	20.8	107	104	63-150	3	30		
Vinyl acetate	ug/L	<0.12	20	20	17.6	16.2	88	81	30-150	8	30		
Vinyl chloride	ug/L	<0.084	20	20	19.2	18.6	96	93	58-150	4	30		
Xylene (Total)	ug/L	<0.15	60	60	59.6	58.2	99	97	70-140	2	30		
1,2-Dichloroethane-d4 (S)	%						111	102	75-125				
4-Bromofluorobenzene (S)	%						101	99	75-125				
Toluene-d8 (S)	%						111	111	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR Freeman
Pace Project No.: 10357004

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: UPRR Freeman

Pace Project No.: 10357004

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR Freeman

Pace Project No.: 10357004

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10357004001	Randall-1607	EPA 8260B	428164		
10357004002	Davey-1607	EPA 8260B	428164		
10357004003	WS5-1607	EPA 8260B	428164		
10357004004	Freeman Store-1607	EPA 8260B	428164		
10357004005	W30-1607	EPA 8260B	428164		
10357004006	Marlow-1607	EPA 8260B	428164		
10357004007	FD1-1607	EPA 8260B	428164		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10357004

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: <u> </u> of <u> </u>	
Company: <u>CH2M</u>		Report To: <u>Steve Demus</u>		Attention: <u> </u>		1720865	
Address: <u>994 W. Riverside Ave, Ste 200 Spokane, WA 99201</u>		Copy To: <u> </u>		Company Name: <u>UPRR</u>		REGULATORY AGENCY	
Email To: <u>sdemus@ch2m.com</u>		Purchase Order No.: <u> </u>		Address: <u> </u>		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input checked="" type="checkbox"/> OTHER _____	
Phone: <u>509-216-7222</u> Fax: <u>509-252-1542</u>		Project Name: <u>UPRR Freeman</u>		Pace Quote Reference: <u> </u>		Site Location: <u>WA</u>	
Requested Due Date/TAT: <u>5-day</u>		Project Number: <u> </u>		Pace Project Manager: <u> </u>		STATE: <u>WA</u>	
				Pace Profile #: <u> </u>			

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test ↓	Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other				
					DATE	TIME	DATE	TIME														
1	Randall - 1607	DW	G					7-27-16	0745	3								X			001	
2	Davey - 1607	DW	G						0815	3								X			002	
3	W26-1607 W55-1607	DW	G						0835	9								X			003	
4	Freeman Store - 1607	DW	G						0910	3								X			004	
5	W30 - 1607	DW	G						0930	3								X			005	
6	Marlow - 1607	DW	G						0950	3								X			006	
7	FDI-1607	DW	G						1200	3								X			007	
8	Trip Blank	WT	G							2								X				
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
MS/MSD for sample W26-1607	JH / CH2M	7-27-16	15:00	PA / UPRR	7/28/16	9:15	0.3	Y	Y	Y

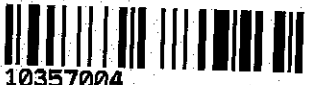
ORIGINAL	SAMPLER NAME AND SIGNATURE			Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	PRINT Name of SAMPLER: <u>Steve Demus</u>						
	SIGNATURE of SAMPLER: <u>JH</u>		DATE Signed (MM/DD/YY): <u>7/27/16</u>				

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Project #: WO# : 10357004

WO# : 10357004



10357004

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 8059 2173 1678

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer 151401163 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: 151401164
 Cooler Temp Read (°C): 0.3 Cooler Temp Corrected (°C): 0.3 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: True Date and Initials of Person Examining Contents: 7-28-16/16

USDA Regulated Soil N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
 If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	Yes	No	N/A	COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
-Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation have been checked?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Sample #
Per method (VOA) pH is checked after analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14.
3 Trip Blanks Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: Steve Demus Date/Time: 07/28/16

Comments/Resolution: Notified Steve the Pace Mnpls approved method for DWs is 524.2, we are not WA state certified to analyze drinking waters by 8260, the report will be narrated and we will not be able to report Chlorodifluoromethane. Per Steve proceed with the analysis.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>1150</u> Temp: <u>0.3</u>	Corrected Temp: <u>0.3</u>
Time: <u>12.05</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 07/28/16
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

August 26, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

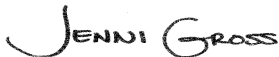
RE: Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10360119

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on August 24, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360119001	PACE0122- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119002	PACE0185- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119003	PACE0190- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119004	PACE0241- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119005	PACE1523- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119006	PACE1528- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119007	PACE1688- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119008	PACE1708- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119009	PACE2060- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119010	PACE2149- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119011	PACE2348- Can Cert	Air	08/24/16 00:00	08/24/16 11:17
10360119012	PACE2359- Can Cert	Air	08/24/16 00:00	08/24/16 11:17

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SAMPLE ANALYTE COUNT

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360119001	PACE0122- Can Cert	TO-15	NCK	60	PASI-M
10360119002	PACE0185- Can Cert	TO-15	NCK	60	PASI-M
10360119003	PACE0190- Can Cert	TO-15	NCK	60	PASI-M
10360119004	PACE0241- Can Cert	TO-15	NCK	60	PASI-M
10360119005	PACE1523- Can Cert	TO-15	NCK	60	PASI-M
10360119006	PACE1528- Can Cert	TO-15	NCK	60	PASI-M
10360119007	PACE1688- Can Cert	TO-15	DR1	60	PASI-M
10360119008	PACE1708- Can Cert	TO-15	MLS	60	PASI-M
10360119009	PACE2060- Can Cert	TO-15	NCK	60	PASI-M
10360119010	PACE2149- Can Cert	TO-15	DR1	60	PASI-M
10360119011	PACE2348- Can Cert	TO-15	NCK	60	PASI-M
10360119012	PACE2359- Can Cert	TO-15	NCK	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Method: TO-15

Description: Individual Can Certification

Client: UPRR_CH2M Hill

Date: August 26, 2016

General Information:

12 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: PACE0122- Can Cert **Lab ID: 10360119001** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/03/16 10:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/03/16 10:25	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/03/16 10:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/03/16 10:25	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/03/16 10:25	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/03/16 10:25	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/03/16 10:25	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/03/16 10:25	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/03/16 10:25	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/03/16 10:25	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/03/16 10:25	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/03/16 10:25	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/03/16 10:25	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/03/16 10:25	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/03/16 10:25	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/03/16 10:25	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/03/16 10:25	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/03/16 10:25	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/03/16 10:25	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/03/16 10:25	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/03/16 10:25	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/03/16 10:25	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/03/16 10:25	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/03/16 10:25	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/03/16 10:25	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/03/16 10:25	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/03/16 10:25	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/03/16 10:25	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/03/16 10:25	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/03/16 10:25	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/03/16 10:25	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/03/16 10:25	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/03/16 10:25	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/03/16 10:25	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/03/16 10:25	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/03/16 10:25	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/03/16 10:25	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/03/16 10:25	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/03/16 10:25	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/03/16 10:25	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/03/16 10:25	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/03/16 10:25	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/03/16 10:25	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/03/16 10:25	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/03/16 10:25	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/03/16 10:25	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE0122- Can Cert **Lab ID: 10360119001** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/03/16 10:25	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/03/16 10:25	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/03/16 10:25	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/03/16 10:25	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/03/16 10:25	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/03/16 10:25	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/03/16 10:25	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/03/16 10:25	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/03/16 10:25	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/03/16 10:25	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/03/16 10:25	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/03/16 10:25	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/03/16 10:25	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	2.3	0.26	1		08/03/16 10:25	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans
 Pace Project No.: 10360119

Sample: PACE0185- Can Cert **Lab ID: 10360119002** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/18/16 13:20	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/18/16 13:20	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/18/16 13:20	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/18/16 13:20	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/18/16 13:20	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/18/16 13:20	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/18/16 13:20	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/18/16 13:20	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/18/16 13:20	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/18/16 13:20	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/18/16 13:20	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/18/16 13:20	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/18/16 13:20	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/18/16 13:20	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/18/16 13:20	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/18/16 13:20	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/18/16 13:20	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/18/16 13:20	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/18/16 13:20	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/18/16 13:20	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/18/16 13:20	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/18/16 13:20	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/18/16 13:20	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/18/16 13:20	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/18/16 13:20	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/18/16 13:20	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/18/16 13:20	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/18/16 13:20	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/18/16 13:20	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/18/16 13:20	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/18/16 13:20	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/18/16 13:20	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/18/16 13:20	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/18/16 13:20	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/18/16 13:20	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/18/16 13:20	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/18/16 13:20	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/18/16 13:20	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/18/16 13:20	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/18/16 13:20	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/18/16 13:20	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/18/16 13:20	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/18/16 13:20	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/18/16 13:20	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/18/16 13:20	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/18/16 13:20	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE0185- Can Cert **Lab ID: 10360119002** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/18/16 13:20	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/18/16 13:20	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/18/16 13:20	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/18/16 13:20	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/18/16 13:20	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/18/16 13:20	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/18/16 13:20	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/18/16 13:20	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/18/16 13:20	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/18/16 13:20	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/18/16 13:20	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/18/16 13:20	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/18/16 13:20	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/18/16 13:20	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: PACE0190- Can Cert Lab ID: 10360119003 Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/15/16 10:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/15/16 10:46	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/15/16 10:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/15/16 10:46	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/15/16 10:46	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/15/16 10:46	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/15/16 10:46	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/15/16 10:46	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/15/16 10:46	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/15/16 10:46	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/15/16 10:46	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/15/16 10:46	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/15/16 10:46	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/15/16 10:46	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/15/16 10:46	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/15/16 10:46	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/15/16 10:46	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/15/16 10:46	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/15/16 10:46	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/15/16 10:46	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/15/16 10:46	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/15/16 10:46	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/15/16 10:46	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/15/16 10:46	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/15/16 10:46	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/15/16 10:46	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/15/16 10:46	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/15/16 10:46	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/15/16 10:46	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/15/16 10:46	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/15/16 10:46	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/15/16 10:46	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/15/16 10:46	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/15/16 10:46	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/15/16 10:46	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/15/16 10:46	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/15/16 10:46	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/15/16 10:46	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/15/16 10:46	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/15/16 10:46	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/15/16 10:46	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/15/16 10:46	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/15/16 10:46	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/15/16 10:46	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/15/16 10:46	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/15/16 10:46	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE0190- Can Cert **Lab ID: 10360119003** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/15/16 10:46	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/15/16 10:46	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/15/16 10:46	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/15/16 10:46	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/15/16 10:46	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/15/16 10:46	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/15/16 10:46	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/15/16 10:46	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/15/16 10:46	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/15/16 10:46	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/15/16 10:46	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/15/16 10:46	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/15/16 10:46	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/15/16 10:46	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: **PACE0241- Can Cert** Lab ID: **10360119004** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/10/16 10:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/10/16 10:26	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/10/16 10:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/10/16 10:26	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/10/16 10:26	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/10/16 10:26	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/10/16 10:26	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/10/16 10:26	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/10/16 10:26	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/10/16 10:26	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/10/16 10:26	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/10/16 10:26	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/10/16 10:26	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/10/16 10:26	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/10/16 10:26	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/10/16 10:26	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/10/16 10:26	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/10/16 10:26	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/10/16 10:26	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/10/16 10:26	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/10/16 10:26	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/10/16 10:26	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/10/16 10:26	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/10/16 10:26	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/10/16 10:26	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/10/16 10:26	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/10/16 10:26	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/10/16 10:26	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/10/16 10:26	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/10/16 10:26	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/10/16 10:26	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/10/16 10:26	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/10/16 10:26	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/10/16 10:26	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/10/16 10:26	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/10/16 10:26	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/10/16 10:26	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/10/16 10:26	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/10/16 10:26	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/10/16 10:26	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/10/16 10:26	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/10/16 10:26	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/10/16 10:26	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/10/16 10:26	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/10/16 10:26	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/10/16 10:26	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE0241- Can Cert **Lab ID: 10360119004** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/10/16 10:26	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/10/16 10:26	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/10/16 10:26	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/10/16 10:26	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/10/16 10:26	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/10/16 10:26	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/10/16 10:26	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/10/16 10:26	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/10/16 10:26	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/10/16 10:26	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/10/16 10:26	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/10/16 10:26	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/10/16 10:26	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/10/16 10:26	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: PACE1523- Can Cert **Lab ID: 10360119005** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/15/16 10:16	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/15/16 10:16	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/15/16 10:16	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/15/16 10:16	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/15/16 10:16	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/15/16 10:16	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/15/16 10:16	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/15/16 10:16	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/15/16 10:16	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/15/16 10:16	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/15/16 10:16	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/15/16 10:16	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/15/16 10:16	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/15/16 10:16	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/15/16 10:16	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/15/16 10:16	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/15/16 10:16	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/15/16 10:16	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/15/16 10:16	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/15/16 10:16	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/15/16 10:16	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/15/16 10:16	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/15/16 10:16	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/15/16 10:16	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/15/16 10:16	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/15/16 10:16	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/15/16 10:16	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/15/16 10:16	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/15/16 10:16	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/15/16 10:16	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/15/16 10:16	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/15/16 10:16	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/15/16 10:16	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/15/16 10:16	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/15/16 10:16	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/15/16 10:16	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/15/16 10:16	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/15/16 10:16	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/15/16 10:16	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/15/16 10:16	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/15/16 10:16	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/15/16 10:16	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/15/16 10:16	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/15/16 10:16	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/15/16 10:16	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/15/16 10:16	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE1523- Can Cert **Lab ID: 10360119005** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/15/16 10:16	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/15/16 10:16	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/15/16 10:16	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/15/16 10:16	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/15/16 10:16	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/15/16 10:16	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/15/16 10:16	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/15/16 10:16	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/15/16 10:16	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/15/16 10:16	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/15/16 10:16	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/15/16 10:16	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/15/16 10:16	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/15/16 10:16	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: PACE1528- Can Cert **Lab ID: 10360119006** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/18/16 13:50	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/18/16 13:50	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/18/16 13:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/18/16 13:50	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/18/16 13:50	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/18/16 13:50	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/18/16 13:50	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/18/16 13:50	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/18/16 13:50	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/18/16 13:50	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/18/16 13:50	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/18/16 13:50	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/18/16 13:50	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/18/16 13:50	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/18/16 13:50	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/18/16 13:50	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/18/16 13:50	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/18/16 13:50	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/18/16 13:50	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/18/16 13:50	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/18/16 13:50	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/18/16 13:50	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/18/16 13:50	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/18/16 13:50	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/18/16 13:50	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/18/16 13:50	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/18/16 13:50	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/18/16 13:50	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/18/16 13:50	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/18/16 13:50	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/18/16 13:50	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/18/16 13:50	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/18/16 13:50	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/18/16 13:50	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/18/16 13:50	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/18/16 13:50	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/18/16 13:50	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/18/16 13:50	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/18/16 13:50	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/18/16 13:50	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/18/16 13:50	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/18/16 13:50	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/18/16 13:50	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/18/16 13:50	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/18/16 13:50	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/18/16 13:50	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE1528- Can Cert **Lab ID: 10360119006** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/18/16 13:50	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/18/16 13:50	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/18/16 13:50	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/18/16 13:50	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/18/16 13:50	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/18/16 13:50	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/18/16 13:50	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/18/16 13:50	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/18/16 13:50	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/18/16 13:50	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/18/16 13:50	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/18/16 13:50	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/18/16 13:50	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/18/16 13:50	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: PACE1688- Can Cert **Lab ID: 10360119007** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/18/16 11:37	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/18/16 11:37	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/18/16 11:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/18/16 11:37	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/18/16 11:37	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/18/16 11:37	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/18/16 11:37	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/18/16 11:37	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/18/16 11:37	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/18/16 11:37	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/18/16 11:37	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/18/16 11:37	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/18/16 11:37	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/18/16 11:37	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/18/16 11:37	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/18/16 11:37	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/18/16 11:37	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/18/16 11:37	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/18/16 11:37	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/18/16 11:37	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/18/16 11:37	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/18/16 11:37	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/18/16 11:37	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/18/16 11:37	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/18/16 11:37	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/18/16 11:37	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/18/16 11:37	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/18/16 11:37	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/18/16 11:37	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/18/16 11:37	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/18/16 11:37	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/18/16 11:37	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/18/16 11:37	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/18/16 11:37	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/18/16 11:37	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/18/16 11:37	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/18/16 11:37	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/18/16 11:37	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/18/16 11:37	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/18/16 11:37	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/18/16 11:37	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/18/16 11:37	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/18/16 11:37	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/18/16 11:37	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/18/16 11:37	100-42-5	
Tetrachloroethene	<0.28	ug/m3	1.4	0.28	1		08/18/16 11:37	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE1688- Can Cert **Lab ID: 10360119007** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/18/16 11:37	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/18/16 11:37	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/18/16 11:37	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/18/16 11:37	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/18/16 11:37	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/18/16 11:37	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/18/16 11:37	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/18/16 11:37	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/18/16 11:37	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/18/16 11:37	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/18/16 11:37	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/18/16 11:37	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/18/16 11:37	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/18/16 11:37	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: **PACE1708- Can Cert** Lab ID: **10360119008** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		06/30/16 09:18	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		06/30/16 09:18	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		06/30/16 09:18	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		06/30/16 09:18	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		06/30/16 09:18	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		06/30/16 09:18	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		06/30/16 09:18	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		06/30/16 09:18	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		06/30/16 09:18	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		06/30/16 09:18	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		06/30/16 09:18	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		06/30/16 09:18	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		06/30/16 09:18	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		06/30/16 09:18	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		06/30/16 09:18	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		06/30/16 09:18	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		06/30/16 09:18	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		06/30/16 09:18	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		06/30/16 09:18	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		06/30/16 09:18	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		06/30/16 09:18	108-10-1	
Acetone	<0.83	ug/m3	6.0	0.83	1		06/30/16 09:18	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		06/30/16 09:18	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		06/30/16 09:18	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		06/30/16 09:18	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		06/30/16 09:18	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		06/30/16 09:18	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		06/30/16 09:18	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	1.3	0.19	1		06/30/16 09:18	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		06/30/16 09:18	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		06/30/16 09:18	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		06/30/16 09:18	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		06/30/16 09:18	74-87-3	
Cyclohexane	<0.32	ug/m3	1.7	0.32	1		06/30/16 09:18	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		06/30/16 09:18	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		06/30/16 09:18	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		06/30/16 09:18	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		06/30/16 09:18	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		06/30/16 09:18	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		06/30/16 09:18	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		06/30/16 09:18	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		06/30/16 09:18	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		06/30/16 09:18	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		06/30/16 09:18	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		06/30/16 09:18	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		06/30/16 09:18	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE1708- Can Cert **Lab ID: 10360119008** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		06/30/16 09:18	109-99-9	
Toluene	<0.15	ug/m3	1.9	0.15	1		06/30/16 09:18	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		06/30/16 09:18	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		06/30/16 09:18	75-69-4	
Vinyl acetate	<0.33	ug/m3	1.8	0.33	1		06/30/16 09:18	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		06/30/16 09:18	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		06/30/16 09:18	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		06/30/16 09:18	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		06/30/16 09:18	179601-23-1	
n-Heptane	<0.28	ug/m3	2.1	0.28	1		06/30/16 09:18	142-82-5	
n-Hexane	<0.36	ug/m3	1.8	0.36	1		06/30/16 09:18	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		06/30/16 09:18	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		06/30/16 09:18	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		06/30/16 09:18	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: PACE2060- Can Cert **Lab ID: 10360119009** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/17/16 14:03	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/17/16 14:03	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/17/16 14:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/17/16 14:03	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/17/16 14:03	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/17/16 14:03	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/17/16 14:03	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/17/16 14:03	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/17/16 14:03	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/17/16 14:03	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/17/16 14:03	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/17/16 14:03	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/17/16 14:03	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/17/16 14:03	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/17/16 14:03	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/17/16 14:03	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/17/16 14:03	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/17/16 14:03	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/17/16 14:03	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/17/16 14:03	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/17/16 14:03	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/17/16 14:03	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/17/16 14:03	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/17/16 14:03	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/17/16 14:03	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/17/16 14:03	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/17/16 14:03	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/17/16 14:03	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/17/16 14:03	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/17/16 14:03	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/17/16 14:03	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/17/16 14:03	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/17/16 14:03	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/17/16 14:03	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/17/16 14:03	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/17/16 14:03	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/17/16 14:03	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/17/16 14:03	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/17/16 14:03	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/17/16 14:03	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/17/16 14:03	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/17/16 14:03	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/17/16 14:03	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/17/16 14:03	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/17/16 14:03	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/17/16 14:03	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE2060- Can Cert **Lab ID: 10360119009** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/17/16 14:03	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/17/16 14:03	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/17/16 14:03	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/17/16 14:03	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/17/16 14:03	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/17/16 14:03	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/17/16 14:03	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/17/16 14:03	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/17/16 14:03	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/17/16 14:03	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/17/16 14:03	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/17/16 14:03	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/17/16 14:03	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/17/16 14:03	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE2149- Can Cert Lab ID: 10360119010 Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/18/16 11:10	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/18/16 11:10	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/18/16 11:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/18/16 11:10	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/18/16 11:10	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/18/16 11:10	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/18/16 11:10	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/18/16 11:10	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/18/16 11:10	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/18/16 11:10	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/18/16 11:10	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/18/16 11:10	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/18/16 11:10	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/18/16 11:10	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/18/16 11:10	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/18/16 11:10	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/18/16 11:10	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/18/16 11:10	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/18/16 11:10	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/18/16 11:10	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/18/16 11:10	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/18/16 11:10	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/18/16 11:10	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/18/16 11:10	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/18/16 11:10	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/18/16 11:10	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/18/16 11:10	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/18/16 11:10	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/18/16 11:10	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/18/16 11:10	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/18/16 11:10	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/18/16 11:10	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/18/16 11:10	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/18/16 11:10	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/18/16 11:10	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/18/16 11:10	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/18/16 11:10	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/18/16 11:10	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/18/16 11:10	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/18/16 11:10	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/18/16 11:10	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/18/16 11:10	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/18/16 11:10	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/18/16 11:10	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/18/16 11:10	100-42-5	
Tetrachloroethene	<0.28	ug/m3	1.4	0.28	1		08/18/16 11:10	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE2149- Can Cert **Lab ID: 10360119010** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/18/16 11:10	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/18/16 11:10	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/18/16 11:10	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/18/16 11:10	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/18/16 11:10	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/18/16 11:10	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/18/16 11:10	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/18/16 11:10	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/18/16 11:10	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/18/16 11:10	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/18/16 11:10	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/18/16 11:10	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/18/16 11:10	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/18/16 11:10	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: **PACE2348- Can Cert** Lab ID: **10360119011** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/17/16 12:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/17/16 12:08	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/17/16 12:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/17/16 12:08	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/17/16 12:08	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/17/16 12:08	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/17/16 12:08	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/17/16 12:08	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/17/16 12:08	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/17/16 12:08	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/17/16 12:08	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/17/16 12:08	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/17/16 12:08	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/17/16 12:08	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/17/16 12:08	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/17/16 12:08	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/17/16 12:08	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/17/16 12:08	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/17/16 12:08	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/17/16 12:08	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/17/16 12:08	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/17/16 12:08	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/17/16 12:08	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/17/16 12:08	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/17/16 12:08	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/17/16 12:08	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/17/16 12:08	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/17/16 12:08	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/17/16 12:08	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/17/16 12:08	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/17/16 12:08	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/17/16 12:08	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/17/16 12:08	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/17/16 12:08	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/17/16 12:08	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/17/16 12:08	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/17/16 12:08	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/17/16 12:08	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/17/16 12:08	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/17/16 12:08	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/17/16 12:08	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/17/16 12:08	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/17/16 12:08	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/17/16 12:08	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/17/16 12:08	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/17/16 12:08	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE2348- Can Cert **Lab ID: 10360119011** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/17/16 12:08	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/17/16 12:08	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/17/16 12:08	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/17/16 12:08	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/17/16 12:08	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/17/16 12:08	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/17/16 12:08	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/17/16 12:08	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/17/16 12:08	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/17/16 12:08	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/17/16 12:08	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/17/16 12:08	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/17/16 12:08	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/17/16 12:08	10061-02-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360119

Sample: **PACE2359- Can Cert** Lab ID: **10360119012** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/18/16 12:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/18/16 12:49	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/18/16 12:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/18/16 12:49	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/18/16 12:49	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/18/16 12:49	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/18/16 12:49	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/18/16 12:49	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/18/16 12:49	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/18/16 12:49	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/18/16 12:49	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/18/16 12:49	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/18/16 12:49	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/18/16 12:49	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/18/16 12:49	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/18/16 12:49	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/18/16 12:49	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/18/16 12:49	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/18/16 12:49	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/18/16 12:49	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/18/16 12:49	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/18/16 12:49	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/18/16 12:49	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/18/16 12:49	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/18/16 12:49	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/18/16 12:49	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/18/16 12:49	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/18/16 12:49	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/18/16 12:49	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/18/16 12:49	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/18/16 12:49	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/18/16 12:49	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/18/16 12:49	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/18/16 12:49	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/18/16 12:49	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/18/16 12:49	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/18/16 12:49	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/18/16 12:49	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/18/16 12:49	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/18/16 12:49	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/18/16 12:49	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/18/16 12:49	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/18/16 12:49	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/18/16 12:49	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/18/16 12:49	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/18/16 12:49	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Sample: PACE2359- Can Cert **Lab ID: 10360119012** Collected: 08/24/16 00:00 Received: 08/24/16 11:17 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/18/16 12:49	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/18/16 12:49	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/18/16 12:49	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/18/16 12:49	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/18/16 12:49	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/18/16 12:49	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/18/16 12:49	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/18/16 12:49	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/18/16 12:49	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/18/16 12:49	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/18/16 12:49	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/18/16 12:49	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/18/16 12:49	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/18/16 12:49	10061-02-6	

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QUALIFIERS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360119

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360119001	PACE0122- Can Cert	TO-15	432448		
10360119002	PACE0185- Can Cert	TO-15	432448		
10360119003	PACE0190- Can Cert	TO-15	432448		
10360119004	PACE0241- Can Cert	TO-15	432448		
10360119005	PACE1523- Can Cert	TO-15	432448		
10360119006	PACE1528- Can Cert	TO-15	432448		
10360119007	PACE1688- Can Cert	TO-15	432448		
10360119008	PACE1708- Can Cert	TO-15	432448		
10360119009	PACE2060- Can Cert	TO-15	432448		
10360119010	PACE2149- Can Cert	TO-15	432448		
10360119011	PACE2348- Can Cert	TO-15	432448		
10360119012	PACE2359- Can Cert	TO-15	432448		

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	Document Name: Chain of Custody Place Holder	Document Revised: 30May2013 Page 1 of 1
	Document No.: F-MN-Q-249-rev.01	Issuing Authority: Pace Minnesota Quality Office

Chain of Custody Place Holder

For Auto Final Report

Generation

This form is to be used as a placeholder for any projects that do not have a COC included, e.g. Lot checks, internal project reports, QC placeholder projects, etc. This is required to ensure that the FRC will generate properly. All client projects should be received with a COC and this should not be used for such reports.

August 26, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

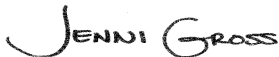
RE: Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10360124

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on August 24, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10360124

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360124001	PACE0707- Can Cert	Air	08/24/16 00:00	08/24/16 11:31
10360124002	PACE1614- Can Cert	Air	08/24/16 00:00	08/24/16 11:31
10360124003	PACE1624- Can Cert	Air	08/24/16 00:00	08/24/16 11:31
10360124004	PACE1649- Can Cert	Air	08/24/16 00:00	08/24/16 11:31
10360124005	PACE1652- Can Cert	Air	08/24/16 00:00	08/24/16 11:31

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SAMPLE ANALYTE COUNT

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360124001	PACE0707- Can Cert	TO-15	MJL	60	PASI-M
10360124002	PACE1614- Can Cert	TO-15	NCK	60	PASI-M
10360124003	PACE1624- Can Cert	TO-15	NCK	60	PASI-M
10360124004	PACE1649- Can Cert	TO-15	MJL	60	PASI-M
10360124005	PACE1652- Can Cert	TO-15	DR1	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10360124001	PACE0707- Can Cert					
TO-15	2-Propanol	0.43J	ug/m3	2.5	08/22/16 15:38	
TO-15	Methylene Chloride	1.3J	ug/m3	3.5	08/22/16 15:38	
10360124005	PACE1652- Can Cert					
TO-15	Naphthalene	0.71J	ug/m3	2.7	08/12/16 10:17	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Method: TO-15

Description: Individual Can Certification

Client: UPRR_CH2M Hill

Date: August 26, 2016

General Information:

5 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360124

Sample: **PACE0707- Can Cert** Lab ID: **10360124001** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/22/16 15:38	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/22/16 15:38	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/22/16 15:38	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/22/16 15:38	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/22/16 15:38	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/22/16 15:38	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/22/16 15:38	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/22/16 15:38	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/22/16 15:38	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/22/16 15:38	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/22/16 15:38	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/22/16 15:38	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/22/16 15:38	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/22/16 15:38	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/22/16 15:38	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/22/16 15:38	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/22/16 15:38	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/22/16 15:38	591-78-6	
2-Propanol	0.43J	ug/m3	2.5	0.24	1		08/22/16 15:38	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/22/16 15:38	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/22/16 15:38	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/22/16 15:38	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/22/16 15:38	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/22/16 15:38	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/22/16 15:38	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/22/16 15:38	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/22/16 15:38	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/22/16 15:38	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/22/16 15:38	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/22/16 15:38	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/22/16 15:38	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/22/16 15:38	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/22/16 15:38	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/22/16 15:38	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/22/16 15:38	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/22/16 15:38	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/22/16 15:38	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/22/16 15:38	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/22/16 15:38	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/22/16 15:38	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/22/16 15:38	1634-04-4	
Methylene Chloride	1.3J	ug/m3	3.5	0.54	1		08/22/16 15:38	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/22/16 15:38	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/22/16 15:38	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/22/16 15:38	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/22/16 15:38	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Sample: PACE0707- Can Cert **Lab ID: 10360124001** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/22/16 15:38	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/22/16 15:38	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/22/16 15:38	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/22/16 15:38	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/22/16 15:38	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/22/16 15:38	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/22/16 15:38	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/22/16 15:38	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/22/16 15:38	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/22/16 15:38	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/22/16 15:38	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/22/16 15:38	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/22/16 15:38	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/22/16 15:38	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans
 Pace Project No.: 10360124

Sample: PACE1614- Can Cert **Lab ID: 10360124002** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/12/16 09:53	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/12/16 09:53	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/12/16 09:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/12/16 09:53	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/12/16 09:53	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/12/16 09:53	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/12/16 09:53	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/12/16 09:53	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/12/16 09:53	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/12/16 09:53	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/12/16 09:53	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/12/16 09:53	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/12/16 09:53	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/12/16 09:53	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/12/16 09:53	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/12/16 09:53	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/12/16 09:53	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/12/16 09:53	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/12/16 09:53	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/12/16 09:53	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/12/16 09:53	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/12/16 09:53	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/12/16 09:53	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/12/16 09:53	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/12/16 09:53	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/12/16 09:53	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/12/16 09:53	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/12/16 09:53	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/12/16 09:53	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/12/16 09:53	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/12/16 09:53	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/12/16 09:53	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/12/16 09:53	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/12/16 09:53	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/12/16 09:53	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/12/16 09:53	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/12/16 09:53	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/12/16 09:53	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/12/16 09:53	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/12/16 09:53	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/12/16 09:53	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/12/16 09:53	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/12/16 09:53	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/12/16 09:53	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/12/16 09:53	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/12/16 09:53	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Sample: PACE1614- Can Cert **Lab ID: 10360124002** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/12/16 09:53	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/12/16 09:53	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/12/16 09:53	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/12/16 09:53	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/12/16 09:53	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/12/16 09:53	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/12/16 09:53	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/12/16 09:53	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/12/16 09:53	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/12/16 09:53	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/12/16 09:53	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/12/16 09:53	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/12/16 09:53	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/12/16 09:53	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360124

Sample: PACE1624- Can Cert Lab ID: 10360124003 Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/12/16 10:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/12/16 10:24	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/12/16 10:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/12/16 10:24	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/12/16 10:24	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/12/16 10:24	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/12/16 10:24	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/12/16 10:24	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/12/16 10:24	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/12/16 10:24	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/12/16 10:24	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/12/16 10:24	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/12/16 10:24	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/12/16 10:24	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/12/16 10:24	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/12/16 10:24	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/12/16 10:24	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/12/16 10:24	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/12/16 10:24	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/12/16 10:24	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/12/16 10:24	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/12/16 10:24	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/12/16 10:24	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/12/16 10:24	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/12/16 10:24	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/12/16 10:24	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/12/16 10:24	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/12/16 10:24	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/12/16 10:24	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/12/16 10:24	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/12/16 10:24	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/12/16 10:24	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/12/16 10:24	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/12/16 10:24	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/12/16 10:24	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/12/16 10:24	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/12/16 10:24	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/12/16 10:24	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/12/16 10:24	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/12/16 10:24	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/12/16 10:24	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/12/16 10:24	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/12/16 10:24	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/12/16 10:24	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/12/16 10:24	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/12/16 10:24	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Sample: PACE1624- Can Cert **Lab ID: 10360124003** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/12/16 10:24	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/12/16 10:24	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/12/16 10:24	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/12/16 10:24	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/12/16 10:24	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/12/16 10:24	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/12/16 10:24	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/12/16 10:24	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/12/16 10:24	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/12/16 10:24	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/12/16 10:24	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/12/16 10:24	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/12/16 10:24	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/12/16 10:24	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360124

Sample: PACE1649- Can Cert **Lab ID: 10360124004** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		06/27/16 09:37	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		06/27/16 09:37	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		06/27/16 09:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		06/27/16 09:37	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		06/27/16 09:37	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		06/27/16 09:37	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	7.5	0.91	1		06/27/16 09:37	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		06/27/16 09:37	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		06/27/16 09:37	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		06/27/16 09:37	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		06/27/16 09:37	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		06/27/16 09:37	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		06/27/16 09:37	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		06/27/16 09:37	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		06/27/16 09:37	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		06/27/16 09:37	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		06/27/16 09:37	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		06/27/16 09:37	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		06/27/16 09:37	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		06/27/16 09:37	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		06/27/16 09:37	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		06/27/16 09:37	67-64-1	
Benzene	<0.12	ug/m3	0.65	0.12	1		06/27/16 09:37	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		06/27/16 09:37	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		06/27/16 09:37	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		06/27/16 09:37	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		06/27/16 09:37	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		06/27/16 09:37	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		06/27/16 09:37	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		06/27/16 09:37	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		06/27/16 09:37	75-00-3	
Chloroform	<0.19	ug/m3	0.99	0.19	1		06/27/16 09:37	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		06/27/16 09:37	74-87-3	
Cyclohexane	<0.32	ug/m3	1.7	0.32	1		06/27/16 09:37	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		06/27/16 09:37	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		06/27/16 09:37	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		06/27/16 09:37	76-14-2	
Ethanol	<0.26	ug/m3	1.9	0.26	1		06/27/16 09:37	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		06/27/16 09:37	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		06/27/16 09:37	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		06/27/16 09:37	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		06/27/16 09:37	75-09-2	
Naphthalene	<0.30	ug/m3	5.3	0.30	1		06/27/16 09:37	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		06/27/16 09:37	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		06/27/16 09:37	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		06/27/16 09:37	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Sample: PACE1649- Can Cert **Lab ID: 10360124004** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		06/27/16 09:37	109-99-9	
Toluene	<0.15	ug/m3	1.9	0.15	1		06/27/16 09:37	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		06/27/16 09:37	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		06/27/16 09:37	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		06/27/16 09:37	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		06/27/16 09:37	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		06/27/16 09:37	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		06/27/16 09:37	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		06/27/16 09:37	179601-23-1	
n-Heptane	<0.28	ug/m3	2.1	0.28	1		06/27/16 09:37	142-82-5	
n-Hexane	<0.36	ug/m3	1.8	0.36	1		06/27/16 09:37	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		06/27/16 09:37	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		06/27/16 09:37	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		06/27/16 09:37	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360124

Sample: PACE1652- Can Cert Lab ID: 10360124005 Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/12/16 10:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/12/16 10:17	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/12/16 10:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/12/16 10:17	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/12/16 10:17	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/12/16 10:17	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/12/16 10:17	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/12/16 10:17	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/12/16 10:17	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/12/16 10:17	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/12/16 10:17	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/12/16 10:17	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/12/16 10:17	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/12/16 10:17	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/12/16 10:17	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/12/16 10:17	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/12/16 10:17	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/12/16 10:17	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/12/16 10:17	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/12/16 10:17	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/12/16 10:17	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/12/16 10:17	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/12/16 10:17	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/12/16 10:17	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/12/16 10:17	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/12/16 10:17	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/12/16 10:17	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/12/16 10:17	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/12/16 10:17	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/12/16 10:17	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/12/16 10:17	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/12/16 10:17	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/12/16 10:17	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/12/16 10:17	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/12/16 10:17	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/12/16 10:17	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/12/16 10:17	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/12/16 10:17	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/12/16 10:17	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/12/16 10:17	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/12/16 10:17	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/12/16 10:17	75-09-2	
Naphthalene	0.71J	ug/m3	2.7	0.30	1		08/12/16 10:17	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/12/16 10:17	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/12/16 10:17	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/12/16 10:17	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Sample: PACE1652- Can Cert **Lab ID: 10360124005** Collected: 08/24/16 00:00 Received: 08/24/16 11:31 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/12/16 10:17	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/12/16 10:17	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/12/16 10:17	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/12/16 10:17	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/12/16 10:17	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/12/16 10:17	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/12/16 10:17	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/12/16 10:17	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/12/16 10:17	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/12/16 10:17	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/12/16 10:17	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/12/16 10:17	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/12/16 10:17	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/12/16 10:17	10061-02-6	

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QUALIFIERS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360124

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360124001	PACE0707- Can Cert	TO-15	432448		
10360124002	PACE1614- Can Cert	TO-15	432448		
10360124003	PACE1624- Can Cert	TO-15	432448		
10360124004	PACE1649- Can Cert	TO-15	432448		
10360124005	PACE1652- Can Cert	TO-15	432448		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Chain of Custody Place Holder	Document Revised: 30May2013 Page 1 of 1
	Document No.: F-MN-Q-249-rev.01	Issuing Authority: Pace Minnesota Quality Office

Chain of Custody Place Holder

For Auto Final Report

Generation

This form is to be used as a placeholder for any projects that do not have a COC included, e.g. Lot checks, internal project reports, QC placeholder projects, etc. This is required to ensure that the FRC will generate properly. All client projects should be received with a COC and this should not be used for such reports.

September 01, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

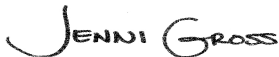
RE: Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10360434

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on August 26, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360434

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360434

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360434001	PACE0121- Can Cert	Air	08/26/16 00:00	08/26/16 11:20
10360434002	PACE0260- Can Cert	Air	08/26/16 00:00	08/26/16 11:20
10360434003	PACE0716- Can Cert	Air	08/26/16 00:00	08/26/16 11:20
10360434004	PACE0725- Can Cert	Air	08/26/16 00:00	08/26/16 11:20
10360434005	PACE1633- Can Cert	Air	08/26/16 00:00	08/26/16 11:20
10360434006	PACE2835- Can Cert	Air	08/26/16 00:00	08/26/16 11:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10360434

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360434001	PACE0121- Can Cert	TO-15	MJL	60	PASI-M
10360434002	PACE0260- Can Cert	TO-15	MJL	60	PASI-M
10360434003	PACE0716- Can Cert	TO-15	MJL	60	PASI-M
10360434004	PACE0725- Can Cert	TO-15	MJL	60	PASI-M
10360434005	PACE1633- Can Cert	TO-15	NCK	60	PASI-M
10360434006	PACE2835- Can Cert	TO-15	DR1	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360434

Method: TO-15

Description: Individual Can Certification

Client: UPRR_CH2M Hill

Date: September 01, 2016

General Information:

6 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10360434

Sample: PACE2835- Can Cert **Lab ID: 10360434006** Collected: 08/26/16 00:00 Received: 08/26/16 11:20 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/25/16 15:03	71-55-6	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/25/16 15:03	79-34-5	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/25/16 15:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/25/16 15:03	76-13-1	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/25/16 15:03	75-34-3	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/25/16 15:03	75-35-4	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/25/16 15:03	120-82-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/25/16 15:03	95-63-6	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/25/16 15:03	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/25/16 15:03	95-50-1	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/25/16 15:03	107-06-2	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/25/16 15:03	78-87-5	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/25/16 15:03	108-67-8	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/25/16 15:03	106-99-0	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/25/16 15:03	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/25/16 15:03	106-46-7	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/25/16 15:03	78-93-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/25/16 15:03	591-78-6	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/25/16 15:03	67-63-0	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/25/16 15:03	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/25/16 15:03	108-10-1	
Acetone	<0.83	ug/m3	2.4	0.83	1		08/25/16 15:03	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/25/16 15:03	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/25/16 15:03	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/25/16 15:03	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/25/16 15:03	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/25/16 15:03	74-83-9	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/25/16 15:03	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/25/16 15:03	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/25/16 15:03	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/25/16 15:03	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/25/16 15:03	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/25/16 15:03	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/25/16 15:03	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/25/16 15:03	124-48-1	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/25/16 15:03	75-71-8	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/25/16 15:03	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/25/16 15:03	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/25/16 15:03	141-78-6	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/25/16 15:03	87-68-3	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/25/16 15:03	1634-04-4	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/25/16 15:03	75-09-2	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/25/16 15:03	91-20-3	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/25/16 15:03	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/25/16 15:03	100-42-5	
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/25/16 15:03	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360434

Sample: PACE2835- Can Cert **Lab ID: 10360434006** Collected: 08/26/16 00:00 Received: 08/26/16 11:20 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/25/16 15:03	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/25/16 15:03	108-88-3	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/25/16 15:03	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/25/16 15:03	75-69-4	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/25/16 15:03	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/25/16 15:03	75-01-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/25/16 15:03	156-59-2	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/25/16 15:03	10061-01-5	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/25/16 15:03	179601-23-1	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/25/16 15:03	142-82-5	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/25/16 15:03	110-54-3	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/25/16 15:03	95-47-6	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/25/16 15:03	156-60-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/25/16 15:03	10061-02-6	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360434

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10360434

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360434001	PACE0121- Can Cert	TO-15	433413		
10360434002	PACE0260- Can Cert	TO-15	433413		
10360434003	PACE0716- Can Cert	TO-15	433413		
10360434004	PACE0725- Can Cert	TO-15	433413		
10360434005	PACE1633- Can Cert	TO-15	433413		
10360434006	PACE2835- Can Cert	TO-15	433413		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Chain of Custody Place Holder	Document Revised: 30May2013 Page 1 of 1
	Document No.: F-MN-Q-249-rev.01	Issuing Authority: Pace Minnesota Quality Office

Chain of Custody Place Holder

For Auto Final Report

Generation

This form is to be used as a placeholder for any projects that do not have a COC included, e.g. Lot checks, internal project reports, QC placeholder projects, etc. This is required to ensure that the FRC will generate properly. All client projects should be received with a COC and this should not be used for such reports.

August 30, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

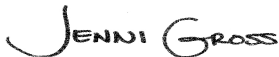
RE: Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10360644

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on August 29, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360644001	MS-OFFICE1-S-2016-08-26	Air	08/27/16 07:11	08/29/16 09:40
10360644002	MS-OA1-S-2016-08-26	Air	08/27/16 07:04	08/29/16 09:40
10360644003	ELEM-OFFICE1-S-2016-08-26	Air	08/27/16 06:56	08/29/16 09:40
10360644004	HS-OFFICE1-S-2016-08-26	Air	08/27/16 07:34	08/29/16 09:40

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SAMPLE ANALYTE COUNT

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360644001	MS-OFFICE1-S-2016-08-26	TO-15	NCK	60	PASI-M
10360644002	MS-OA1-S-2016-08-26	TO-15	NCK	60	PASI-M
10360644003	ELEM-OFFICE1-S-2016-08-26	TO-15	NCK	60	PASI-M
10360644004	HS-OFFICE1-S-2016-08-26	TO-15	NCK	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10360644001	MS-OFFICE1-S-2016-08-26					
TO-15	1,1,2-Trichlorotrifluoroethane	1.0J	ug/m3	2.9	08/29/16 16:39	
TO-15	1,2,4-Trimethylbenzene	1.4J	ug/m3	1.8	08/29/16 16:39	
TO-15	1,3,5-Trimethylbenzene	1.4J	ug/m3	1.8	08/29/16 16:39	
TO-15	1,4-Dichlorobenzene	2.8J	ug/m3	5.6	08/29/16 16:39	
TO-15	2-Propanol	4.8	ug/m3	4.6	08/29/16 16:39	
TO-15	4-Ethyltoluene	1.6J	ug/m3	1.8	08/29/16 16:39	
TO-15	Acetone	24.3	ug/m3	4.4	08/29/16 16:39	
TO-15	Benzene	0.75J	ug/m3	1.2	08/29/16 16:39	
TO-15	Carbon disulfide	0.69J	ug/m3	1.2	08/29/16 16:39	
TO-15	Carbon tetrachloride	0.83J	ug/m3	1.2	08/29/16 16:39	
TO-15	Chloromethane	1.5	ug/m3	0.77	08/29/16 16:39	
TO-15	Dichlorodifluoromethane	3.1	ug/m3	1.8	08/29/16 16:39	
TO-15	Ethanol	35.6	ug/m3	3.5	08/29/16 16:39	
TO-15	Ethyl acetate	2.4J	ug/m3	3.4	08/29/16 16:39	
TO-15	Naphthalene	3.6J	ug/m3	4.9	08/29/16 16:39	
TO-15	Styrene	1.6J	ug/m3	1.6	08/29/16 16:39	
TO-15	Toluene	2.1	ug/m3	1.4	08/29/16 16:39	
TO-15	Trichloroethene	3.0	ug/m3	2.0	08/29/16 16:39	
TO-15	Trichlorofluoromethane	2.0J	ug/m3	2.1	08/29/16 16:39	
TO-15	Vinyl acetate	1.1J	ug/m3	1.3	08/29/16 16:39	
TO-15	m&p-Xylene	3.5J	ug/m3	8.1	08/29/16 16:39	
TO-15	n-Heptane	1.4J	ug/m3	1.5	08/29/16 16:39	
TO-15	n-Hexane	2.0J	ug/m3	3.3	08/29/16 16:39	
TO-15	o-Xylene	0.99J	ug/m3	1.6	08/29/16 16:39	
10360644002	MS-OA1-S-2016-08-26					
TO-15	1,1,2-Trichlorotrifluoroethane	0.77J	ug/m3	2.9	08/29/16 17:42	
TO-15	1,2,4-Trimethylbenzene	2.6	ug/m3	1.8	08/29/16 17:42	
TO-15	1,3,5-Trimethylbenzene	2.0	ug/m3	1.8	08/29/16 17:42	
TO-15	4-Ethyltoluene	2.3	ug/m3	1.8	08/29/16 17:42	
TO-15	4-Methyl-2-pentanone (MIBK)	2.1J	ug/m3	7.6	08/29/16 17:42	
TO-15	Acetone	17.4	ug/m3	4.4	08/29/16 17:42	
TO-15	Benzene	3.4	ug/m3	1.2	08/29/16 17:42	
TO-15	Bromomethane	2.7J	ug/m3	3.6	08/29/16 17:42	
TO-15	Carbon disulfide	0.81J	ug/m3	1.2	08/29/16 17:42	
TO-15	Carbon tetrachloride	0.80J	ug/m3	1.2	08/29/16 17:42	
TO-15	Chloromethane	1.3	ug/m3	0.77	08/29/16 17:42	
TO-15	Dichlorodifluoromethane	2.6	ug/m3	1.8	08/29/16 17:42	
TO-15	Ethanol	9.7	ug/m3	3.5	08/29/16 17:42	
TO-15	Ethyl acetate	2.3J	ug/m3	3.4	08/29/16 17:42	
TO-15	Naphthalene	3.8J	ug/m3	4.9	08/29/16 17:42	
TO-15	Styrene	1.8	ug/m3	1.6	08/29/16 17:42	
TO-15	Toluene	4.1	ug/m3	1.4	08/29/16 17:42	
TO-15	Trichloroethene	1.5J	ug/m3	2.0	08/29/16 17:42	
TO-15	Trichlorofluoromethane	1.7J	ug/m3	2.1	08/29/16 17:42	
TO-15	Vinyl acetate	1.6	ug/m3	1.3	08/29/16 17:42	
TO-15	m&p-Xylene	11.8	ug/m3	8.1	08/29/16 17:42	
TO-15	n-Heptane	1.2J	ug/m3	1.5	08/29/16 17:42	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10360644002	MS-OA1-S-2016-08-26					
TO-15	n-Hexane	1.7J	ug/m3	3.3	08/29/16 17:42	
TO-15	o-Xylene	2.8	ug/m3	1.6	08/29/16 17:42	
10360644003	ELEM-OFFICE1-S-2016-08-26					
TO-15	1,2,4-Trimethylbenzene	1.6J	ug/m3	1.8	08/29/16 18:45	
TO-15	1,2-Dichloroethane	2.1	ug/m3	0.75	08/29/16 18:45	
TO-15	1,3,5-Trimethylbenzene	1.5J	ug/m3	1.8	08/29/16 18:45	
TO-15	2-Propanol	7.3	ug/m3	4.6	08/29/16 18:45	
TO-15	4-Ethyltoluene	1.7J	ug/m3	1.8	08/29/16 18:45	
TO-15	Acetone	65.3	ug/m3	4.4	08/29/16 18:45	
TO-15	Benzene	0.67J	ug/m3	1.2	08/29/16 18:45	
TO-15	Carbon tetrachloride	0.77J	ug/m3	1.2	08/29/16 18:45	
TO-15	Chloroform	0.99J	ug/m3	1.8	08/29/16 18:45	
TO-15	Chloromethane	1.4	ug/m3	0.77	08/29/16 18:45	
TO-15	Cyclohexane	1.8	ug/m3	1.3	08/29/16 18:45	
TO-15	Dichlorodifluoromethane	2.8	ug/m3	1.8	08/29/16 18:45	
TO-15	Ethanol	47.3	ug/m3	3.5	08/29/16 18:45	
TO-15	Ethyl acetate	3.2J	ug/m3	3.4	08/29/16 18:45	
TO-15	Naphthalene	3.0J	ug/m3	4.9	08/29/16 18:45	
TO-15	Styrene	1.9	ug/m3	1.6	08/29/16 18:45	
TO-15	Tetrachloroethene	2.7	ug/m3	2.5	08/29/16 18:45	
TO-15	Toluene	3.7	ug/m3	1.4	08/29/16 18:45	
TO-15	Trichlorofluoromethane	1.7J	ug/m3	2.1	08/29/16 18:45	
TO-15	Vinyl acetate	1.8	ug/m3	1.3	08/29/16 18:45	
TO-15	Vinyl chloride	1.8	ug/m3	0.95	08/29/16 18:45	
TO-15	m&p-Xylene	4.3J	ug/m3	8.1	08/29/16 18:45	
TO-15	n-Heptane	1.3J	ug/m3	1.5	08/29/16 18:45	
TO-15	n-Hexane	2.0J	ug/m3	3.3	08/29/16 18:45	
TO-15	o-Xylene	1.3J	ug/m3	1.6	08/29/16 18:45	
10360644004	HS-OFFICE1-S-2016-08-26					
TO-15	1,2,4-Trimethylbenzene	2.7	ug/m3	1.8	08/29/16 19:17	
TO-15	1,3,5-Trimethylbenzene	1.9	ug/m3	1.8	08/29/16 19:17	
TO-15	2-Butanone (MEK)	28.3	ug/m3	5.5	08/29/16 19:17	
TO-15	2-Propanol	18.6	ug/m3	4.6	08/29/16 19:17	
TO-15	4-Ethyltoluene	2.3	ug/m3	1.8	08/29/16 19:17	
TO-15	Acetone	1090	ug/m3	4.4	08/29/16 19:17	E
TO-15	Benzene	0.79J	ug/m3	1.2	08/29/16 19:17	
TO-15	Carbon tetrachloride	0.68J	ug/m3	1.2	08/29/16 19:17	
TO-15	Chloroform	1.7J	ug/m3	1.8	08/29/16 19:17	
TO-15	Chloromethane	1.5	ug/m3	0.77	08/29/16 19:17	
TO-15	Cyclohexane	0.70J	ug/m3	1.3	08/29/16 19:17	
TO-15	Dichlorodifluoromethane	2.8	ug/m3	1.8	08/29/16 19:17	
TO-15	Ethanol	47.2	ug/m3	3.5	08/29/16 19:17	
TO-15	Ethyl acetate	27.0	ug/m3	3.4	08/29/16 19:17	
TO-15	Naphthalene	6.6	ug/m3	4.9	08/29/16 19:17	
TO-15	Styrene	570	ug/m3	15.9	08/30/16 11:12	
TO-15	Tetrachloroethene	1.3J	ug/m3	2.5	08/29/16 19:17	

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10360644004	HS-OFFICE1-S-2016-08-26					
TO-15	Tetrahydrofuran	1.2	ug/m3	1.1	08/29/16 19:17	
TO-15	Toluene	3.5	ug/m3	1.4	08/29/16 19:17	
TO-15	Trichloroethene	1.4J	ug/m3	2.0	08/29/16 19:17	
TO-15	Trichlorofluoromethane	1.7J	ug/m3	2.1	08/29/16 19:17	
TO-15	Vinyl acetate	1.5	ug/m3	1.3	08/29/16 19:17	
TO-15	m&p-Xylene	5.6J	ug/m3	8.1	08/29/16 19:17	
TO-15	n-Heptane	1.4J	ug/m3	1.5	08/29/16 19:17	
TO-15	n-Hexane	4.9	ug/m3	3.3	08/29/16 19:17	
TO-15	o-Xylene	1.9	ug/m3	1.6	08/29/16 19:17	

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Method: TO-15

Description: TO15 MSV AIR

Client: UPRR_CH2M Hill

Date: August 30, 2016

General Information:

4 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 433063

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- HS-OFFICE1-S-2016-08-26 (Lab ID: 10360644004)
- Acetone

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10360644

Sample: **MS-OFFICE1-S-2016-08-26** Lab ID: **10360644001** Collected: 08/27/16 07:11 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/29/16 16:39	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/29/16 16:39	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/29/16 16:39	79-00-5	
1,1,2-Trichlorotrifluoroethane	1.0J	ug/m3	2.9	0.55	1.83		08/29/16 16:39	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/29/16 16:39	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/29/16 16:39	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/29/16 16:39	120-82-1	
1,2,4-Trimethylbenzene	1.4J	ug/m3	1.8	0.23	1.83		08/29/16 16:39	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	7.1	1.4	1.83		08/29/16 16:39	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	5.6	0.94	1.83		08/29/16 16:39	95-50-1	
1,2-Dichloroethane	<0.38	ug/m3	0.75	0.38	1.83		08/29/16 16:39	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/29/16 16:39	78-87-5	
1,3,5-Trimethylbenzene	1.4J	ug/m3	1.8	0.33	1.83		08/29/16 16:39	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/29/16 16:39	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/29/16 16:39	541-73-1	
1,4-Dichlorobenzene	2.8J	ug/m3	5.6	0.91	1.83		08/29/16 16:39	106-46-7	
2-Butanone (MEK)	<0.42	ug/m3	5.5	0.42	1.83		08/29/16 16:39	78-93-3	
2-Hexanone	<0.75	ug/m3	7.6	0.75	1.83		08/29/16 16:39	591-78-6	
2-Propanol	4.8	ug/m3	4.6	0.44	1.83		08/29/16 16:39	67-63-0	
4-Ethyltoluene	1.6J	ug/m3	1.8	0.34	1.83		08/29/16 16:39	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.40	ug/m3	7.6	0.40	1.83		08/29/16 16:39	108-10-1	
Acetone	24.3	ug/m3	4.4	1.5	1.83		08/29/16 16:39	67-64-1	
Benzene	0.75J	ug/m3	1.2	0.22	1.83		08/29/16 16:39	71-43-2	
Benzyl chloride	<0.30	ug/m3	3.0	0.30	1.83		08/29/16 16:39	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/29/16 16:39	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/29/16 16:39	75-25-2	
Bromomethane	<0.57	ug/m3	3.6	0.57	1.83		08/29/16 16:39	74-83-9	
Carbon disulfide	0.69J	ug/m3	1.2	0.18	1.83		08/29/16 16:39	75-15-0	
Carbon tetrachloride	0.83J	ug/m3	1.2	0.35	1.83		08/29/16 16:39	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/29/16 16:39	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/29/16 16:39	75-00-3	
Chloroform	<0.35	ug/m3	1.8	0.35	1.83		08/29/16 16:39	67-66-3	
Chloromethane	1.5	ug/m3	0.77	0.20	1.83		08/29/16 16:39	74-87-3	
Cyclohexane	<0.58	ug/m3	1.3	0.58	1.83		08/29/16 16:39	110-82-7	
Dibromochloromethane	<1.6	ug/m3	7.9	1.6	1.83		08/29/16 16:39	124-48-1	
Dichlorodifluoromethane	3.1	ug/m3	1.8	0.88	1.83		08/29/16 16:39	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/29/16 16:39	76-14-2	
Ethanol	35.6	ug/m3	3.5	0.48	1.83		08/29/16 16:39	64-17-5	
Ethyl acetate	2.4J	ug/m3	3.4	0.64	1.83		08/29/16 16:39	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	9.9	1.2	1.83		08/29/16 16:39	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	8.4	0.55	1.83		08/29/16 16:39	1634-04-4	
Methylene Chloride	<0.99	ug/m3	6.5	0.99	1.83		08/29/16 16:39	75-09-2	
Naphthalene	3.6J	ug/m3	4.9	0.56	1.83		08/29/16 16:39	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/29/16 16:39	115-07-1	
Styrene	1.6J	ug/m3	1.6	0.35	1.83		08/29/16 16:39	100-42-5	
Tetrachloroethene	<0.51	ug/m3	2.5	0.51	1.83		08/29/16 16:39	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Sample: MS-OFFICE1-S-2016-08-26 **Lab ID: 10360644001** Collected: 08/27/16 07:11 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.22	ug/m3	1.1	0.22	1.83		08/29/16 16:39	109-99-9	
Toluene	2.1	ug/m3	1.4	0.28	1.83		08/29/16 16:39	108-88-3	
Trichloroethene	3.0	ug/m3	2.0	0.51	1.83		08/29/16 16:39	79-01-6	
Trichlorofluoromethane	2.0J	ug/m3	2.1	0.24	1.83		08/29/16 16:39	75-69-4	
Vinyl acetate	1.1J	ug/m3	1.3	0.60	1.83		08/29/16 16:39	108-05-4	
Vinyl chloride	<0.36	ug/m3	0.95	0.36	1.83		08/29/16 16:39	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/29/16 16:39	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/29/16 16:39	10061-01-5	
m&p-Xylene	3.5J	ug/m3	8.1	1.4	1.83		08/29/16 16:39	179601-23-1	
n-Heptane	1.4J	ug/m3	1.5	0.51	1.83		08/29/16 16:39	142-82-5	
n-Hexane	2.0J	ug/m3	3.3	0.65	1.83		08/29/16 16:39	110-54-3	
o-Xylene	0.99J	ug/m3	1.6	0.64	1.83		08/29/16 16:39	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/29/16 16:39	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/29/16 16:39	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Sample: MS-OA1-S-2016-08-26 Lab ID: 10360644002 Collected: 08/27/16 07:04 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/29/16 17:42	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/29/16 17:42	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/29/16 17:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.77J	ug/m3	2.9	0.55	1.83		08/29/16 17:42	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/29/16 17:42	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/29/16 17:42	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/29/16 17:42	120-82-1	
1,2,4-Trimethylbenzene	2.6	ug/m3	1.8	0.23	1.83		08/29/16 17:42	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	7.1	1.4	1.83		08/29/16 17:42	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	5.6	0.94	1.83		08/29/16 17:42	95-50-1	
1,2-Dichloroethane	<0.38	ug/m3	0.75	0.38	1.83		08/29/16 17:42	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/29/16 17:42	78-87-5	
1,3,5-Trimethylbenzene	2.0	ug/m3	1.8	0.33	1.83		08/29/16 17:42	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/29/16 17:42	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/29/16 17:42	541-73-1	
1,4-Dichlorobenzene	<0.91	ug/m3	5.6	0.91	1.83		08/29/16 17:42	106-46-7	
2-Butanone (MEK)	<0.42	ug/m3	5.5	0.42	1.83		08/29/16 17:42	78-93-3	
2-Hexanone	<0.75	ug/m3	7.6	0.75	1.83		08/29/16 17:42	591-78-6	
2-Propanol	<0.44	ug/m3	4.6	0.44	1.83		08/29/16 17:42	67-63-0	
4-Ethyltoluene	2.3	ug/m3	1.8	0.34	1.83		08/29/16 17:42	622-96-8	
4-Methyl-2-pentanone (MIBK)	2.1J	ug/m3	7.6	0.40	1.83		08/29/16 17:42	108-10-1	
Acetone	17.4	ug/m3	4.4	1.5	1.83		08/29/16 17:42	67-64-1	
Benzene	3.4	ug/m3	1.2	0.22	1.83		08/29/16 17:42	71-43-2	
Benzyl chloride	<0.30	ug/m3	3.0	0.30	1.83		08/29/16 17:42	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/29/16 17:42	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/29/16 17:42	75-25-2	
Bromomethane	2.7J	ug/m3	3.6	0.57	1.83		08/29/16 17:42	74-83-9	
Carbon disulfide	0.81J	ug/m3	1.2	0.18	1.83		08/29/16 17:42	75-15-0	
Carbon tetrachloride	0.80J	ug/m3	1.2	0.35	1.83		08/29/16 17:42	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/29/16 17:42	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/29/16 17:42	75-00-3	
Chloroform	<0.35	ug/m3	1.8	0.35	1.83		08/29/16 17:42	67-66-3	
Chloromethane	1.3	ug/m3	0.77	0.20	1.83		08/29/16 17:42	74-87-3	
Cyclohexane	<0.58	ug/m3	1.3	0.58	1.83		08/29/16 17:42	110-82-7	
Dibromochloromethane	<1.6	ug/m3	7.9	1.6	1.83		08/29/16 17:42	124-48-1	
Dichlorodifluoromethane	2.6	ug/m3	1.8	0.88	1.83		08/29/16 17:42	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/29/16 17:42	76-14-2	
Ethanol	9.7	ug/m3	3.5	0.48	1.83		08/29/16 17:42	64-17-5	
Ethyl acetate	2.3J	ug/m3	3.4	0.64	1.83		08/29/16 17:42	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	9.9	1.2	1.83		08/29/16 17:42	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	8.4	0.55	1.83		08/29/16 17:42	1634-04-4	
Methylene Chloride	<0.99	ug/m3	6.5	0.99	1.83		08/29/16 17:42	75-09-2	
Naphthalene	3.8J	ug/m3	4.9	0.56	1.83		08/29/16 17:42	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/29/16 17:42	115-07-1	
Styrene	1.8	ug/m3	1.6	0.35	1.83		08/29/16 17:42	100-42-5	
Tetrachloroethene	<0.51	ug/m3	2.5	0.51	1.83		08/29/16 17:42	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Sample: MS-OA1-S-2016-08-26 **Lab ID: 10360644002** Collected: 08/27/16 07:04 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.22	ug/m3	1.1	0.22	1.83		08/29/16 17:42	109-99-9	
Toluene	4.1	ug/m3	1.4	0.28	1.83		08/29/16 17:42	108-88-3	
Trichloroethene	1.5J	ug/m3	2.0	0.51	1.83		08/29/16 17:42	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	2.1	0.24	1.83		08/29/16 17:42	75-69-4	
Vinyl acetate	1.6	ug/m3	1.3	0.60	1.83		08/29/16 17:42	108-05-4	
Vinyl chloride	<0.36	ug/m3	0.95	0.36	1.83		08/29/16 17:42	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/29/16 17:42	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/29/16 17:42	10061-01-5	
m&p-Xylene	11.8	ug/m3	8.1	1.4	1.83		08/29/16 17:42	179601-23-1	
n-Heptane	1.2J	ug/m3	1.5	0.51	1.83		08/29/16 17:42	142-82-5	
n-Hexane	1.7J	ug/m3	3.3	0.65	1.83		08/29/16 17:42	110-54-3	
o-Xylene	2.8	ug/m3	1.6	0.64	1.83		08/29/16 17:42	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/29/16 17:42	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/29/16 17:42	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Sample: **ELEM-OFFICE1-S-2016-08-26** Lab ID: **10360644003** Collected: 08/27/16 06:56 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/29/16 18:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/29/16 18:45	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/29/16 18:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/29/16 18:45	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/29/16 18:45	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/29/16 18:45	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/29/16 18:45	120-82-1	
1,2,4-Trimethylbenzene	1.6J	ug/m3	1.8	0.23	1.83		08/29/16 18:45	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	7.1	1.4	1.83		08/29/16 18:45	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	5.6	0.94	1.83		08/29/16 18:45	95-50-1	
1,2-Dichloroethane	2.1	ug/m3	0.75	0.38	1.83		08/29/16 18:45	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/29/16 18:45	78-87-5	
1,3,5-Trimethylbenzene	1.5J	ug/m3	1.8	0.33	1.83		08/29/16 18:45	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/29/16 18:45	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/29/16 18:45	541-73-1	
1,4-Dichlorobenzene	<0.91	ug/m3	5.6	0.91	1.83		08/29/16 18:45	106-46-7	
2-Butanone (MEK)	<0.42	ug/m3	5.5	0.42	1.83		08/29/16 18:45	78-93-3	
2-Hexanone	<0.75	ug/m3	7.6	0.75	1.83		08/29/16 18:45	591-78-6	
2-Propanol	7.3	ug/m3	4.6	0.44	1.83		08/29/16 18:45	67-63-0	
4-Ethyltoluene	1.7J	ug/m3	1.8	0.34	1.83		08/29/16 18:45	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.40	ug/m3	7.6	0.40	1.83		08/29/16 18:45	108-10-1	
Acetone	65.3	ug/m3	4.4	1.5	1.83		08/29/16 18:45	67-64-1	
Benzene	0.67J	ug/m3	1.2	0.22	1.83		08/29/16 18:45	71-43-2	
Benzyl chloride	<0.30	ug/m3	3.0	0.30	1.83		08/29/16 18:45	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/29/16 18:45	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/29/16 18:45	75-25-2	
Bromomethane	<0.57	ug/m3	3.6	0.57	1.83		08/29/16 18:45	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/29/16 18:45	75-15-0	
Carbon tetrachloride	0.77J	ug/m3	1.2	0.35	1.83		08/29/16 18:45	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/29/16 18:45	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/29/16 18:45	75-00-3	
Chloroform	0.99J	ug/m3	1.8	0.35	1.83		08/29/16 18:45	67-66-3	
Chloromethane	1.4	ug/m3	0.77	0.20	1.83		08/29/16 18:45	74-87-3	
Cyclohexane	1.8	ug/m3	1.3	0.58	1.83		08/29/16 18:45	110-82-7	
Dibromochloromethane	<1.6	ug/m3	7.9	1.6	1.83		08/29/16 18:45	124-48-1	
Dichlorodifluoromethane	2.8	ug/m3	1.8	0.88	1.83		08/29/16 18:45	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/29/16 18:45	76-14-2	
Ethanol	47.3	ug/m3	3.5	0.48	1.83		08/29/16 18:45	64-17-5	
Ethyl acetate	3.2J	ug/m3	3.4	0.64	1.83		08/29/16 18:45	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	9.9	1.2	1.83		08/29/16 18:45	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	8.4	0.55	1.83		08/29/16 18:45	1634-04-4	
Methylene Chloride	<0.99	ug/m3	6.5	0.99	1.83		08/29/16 18:45	75-09-2	
Naphthalene	3.0J	ug/m3	4.9	0.56	1.83		08/29/16 18:45	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/29/16 18:45	115-07-1	
Styrene	1.9	ug/m3	1.6	0.35	1.83		08/29/16 18:45	100-42-5	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Sample: ELEM-OFFICE1-S-2016-08-26 **Lab ID:** 10360644003 Collected: 08/27/16 06:56 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Tetrachloroethene	2.7	ug/m3	2.5	0.51	1.83		08/29/16 18:45	127-18-4	
Tetrahydrofuran	<0.22	ug/m3	1.1	0.22	1.83		08/29/16 18:45	109-99-9	
Toluene	3.7	ug/m3	1.4	0.28	1.83		08/29/16 18:45	108-88-3	
Trichloroethene	<0.51	ug/m3	2.0	0.51	1.83		08/29/16 18:45	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	2.1	0.24	1.83		08/29/16 18:45	75-69-4	
Vinyl acetate	1.8	ug/m3	1.3	0.60	1.83		08/29/16 18:45	108-05-4	
Vinyl chloride	1.8	ug/m3	0.95	0.36	1.83		08/29/16 18:45	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/29/16 18:45	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/29/16 18:45	10061-01-5	
m&p-Xylene	4.3J	ug/m3	8.1	1.4	1.83		08/29/16 18:45	179601-23-1	
n-Heptane	1.3J	ug/m3	1.5	0.51	1.83		08/29/16 18:45	142-82-5	
n-Hexane	2.0J	ug/m3	3.3	0.65	1.83		08/29/16 18:45	110-54-3	
o-Xylene	1.3J	ug/m3	1.6	0.64	1.83		08/29/16 18:45	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/29/16 18:45	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/29/16 18:45	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10360644

Sample: HS-OFFICE1-S-2016-08-26 Lab ID: 10360644004 Collected: 08/27/16 07:34 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/29/16 19:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/29/16 19:17	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/29/16 19:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/29/16 19:17	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/29/16 19:17	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/29/16 19:17	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/29/16 19:17	120-82-1	
1,2,4-Trimethylbenzene	2.7	ug/m3	1.8	0.23	1.83		08/29/16 19:17	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	7.1	1.4	1.83		08/29/16 19:17	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	5.6	0.94	1.83		08/29/16 19:17	95-50-1	
1,2-Dichloroethane	<0.38	ug/m3	0.75	0.38	1.83		08/29/16 19:17	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/29/16 19:17	78-87-5	
1,3,5-Trimethylbenzene	1.9	ug/m3	1.8	0.33	1.83		08/29/16 19:17	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/29/16 19:17	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/29/16 19:17	541-73-1	
1,4-Dichlorobenzene	<0.91	ug/m3	5.6	0.91	1.83		08/29/16 19:17	106-46-7	
2-Butanone (MEK)	28.3	ug/m3	5.5	0.42	1.83		08/29/16 19:17	78-93-3	
2-Hexanone	<0.75	ug/m3	7.6	0.75	1.83		08/29/16 19:17	591-78-6	
2-Propanol	18.6	ug/m3	4.6	0.44	1.83		08/29/16 19:17	67-63-0	
4-Ethyltoluene	2.3	ug/m3	1.8	0.34	1.83		08/29/16 19:17	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.40	ug/m3	7.6	0.40	1.83		08/29/16 19:17	108-10-1	
Acetone	1090	ug/m3	4.4	1.5	1.83		08/29/16 19:17	67-64-1	E
Benzene	0.79J	ug/m3	1.2	0.22	1.83		08/29/16 19:17	71-43-2	
Benzyl chloride	<0.30	ug/m3	3.0	0.30	1.83		08/29/16 19:17	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/29/16 19:17	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/29/16 19:17	75-25-2	
Bromomethane	<0.57	ug/m3	3.6	0.57	1.83		08/29/16 19:17	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/29/16 19:17	75-15-0	
Carbon tetrachloride	0.68J	ug/m3	1.2	0.35	1.83		08/29/16 19:17	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/29/16 19:17	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/29/16 19:17	75-00-3	
Chloroform	1.7J	ug/m3	1.8	0.35	1.83		08/29/16 19:17	67-66-3	
Chloromethane	1.5	ug/m3	0.77	0.20	1.83		08/29/16 19:17	74-87-3	
Cyclohexane	0.70J	ug/m3	1.3	0.58	1.83		08/29/16 19:17	110-82-7	
Dibromochloromethane	<1.6	ug/m3	7.9	1.6	1.83		08/29/16 19:17	124-48-1	
Dichlorodifluoromethane	2.8	ug/m3	1.8	0.88	1.83		08/29/16 19:17	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/29/16 19:17	76-14-2	
Ethanol	47.2	ug/m3	3.5	0.48	1.83		08/29/16 19:17	64-17-5	
Ethyl acetate	27.0	ug/m3	3.4	0.64	1.83		08/29/16 19:17	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	9.9	1.2	1.83		08/29/16 19:17	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	8.4	0.55	1.83		08/29/16 19:17	1634-04-4	
Methylene Chloride	<0.99	ug/m3	6.5	0.99	1.83		08/29/16 19:17	75-09-2	
Naphthalene	6.6	ug/m3	4.9	0.56	1.83		08/29/16 19:17	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/29/16 19:17	115-07-1	
Styrene	570	ug/m3	15.9		18.3		08/30/16 11:12	100-42-5	
Tetrachloroethene	1.3J	ug/m3	2.5	0.51	1.83		08/29/16 19:17	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Sample: HS-OFFICE1-S-2016-08-26 **Lab ID:** 10360644004 Collected: 08/27/16 07:34 Received: 08/29/16 09:40 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.2	ug/m3	1.1	0.22	1.83		08/29/16 19:17	109-99-9	
Toluene	3.5	ug/m3	1.4	0.28	1.83		08/29/16 19:17	108-88-3	
Trichloroethene	1.4J	ug/m3	2.0	0.51	1.83		08/29/16 19:17	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	2.1	0.24	1.83		08/29/16 19:17	75-69-4	
Vinyl acetate	1.5	ug/m3	1.3	0.60	1.83		08/29/16 19:17	108-05-4	
Vinyl chloride	<0.36	ug/m3	0.95	0.36	1.83		08/29/16 19:17	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/29/16 19:17	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/29/16 19:17	10061-01-5	
m&p-Xylene	5.6J	ug/m3	8.1	1.4	1.83		08/29/16 19:17	179601-23-1	
n-Heptane	1.4J	ug/m3	1.5	0.51	1.83		08/29/16 19:17	142-82-5	
n-Hexane	4.9	ug/m3	3.3	0.65	1.83		08/29/16 19:17	110-54-3	
o-Xylene	1.9	ug/m3	1.6	0.64	1.83		08/29/16 19:17	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/29/16 19:17	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/29/16 19:17	10061-02-6	

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

QC Batch: 433063 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10360644001, 10360644002, 10360644003, 10360644004

METHOD BLANK: 2355291 Matrix: Air
Associated Lab Samples: 10360644001, 10360644002, 10360644003, 10360644004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.25	1.1	0.25	08/29/16 14:59	
1,1,2,2-Tetrachloroethane	ug/m3	<0.33	1.4	0.33	08/29/16 14:59	
1,1,2-Trichloroethane	ug/m3	<0.25	0.55	0.25	08/29/16 14:59	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.30	1.6	0.30	08/29/16 14:59	
1,1-Dichloroethane	ug/m3	<0.16	0.82	0.16	08/29/16 14:59	
1,1-Dichloroethene	ug/m3	<0.24	0.81	0.24	08/29/16 14:59	
1,2,4-Trichlorobenzene	ug/m3	<0.91	3.8	0.91	08/29/16 14:59	
1,2,4-Trimethylbenzene	ug/m3	<0.12	1.0	0.12	08/29/16 14:59	
1,2-Dibromoethane (EDB)	ug/m3	<0.77	3.9	0.77	08/29/16 14:59	
1,2-Dichlorobenzene	ug/m3	<0.51	3.1	0.51	08/29/16 14:59	
1,2-Dichloroethane	ug/m3	<0.20	0.41	0.20	08/29/16 14:59	
1,2-Dichloropropane	ug/m3	<0.27	0.94	0.27	08/29/16 14:59	
1,3,5-Trimethylbenzene	ug/m3	<0.18	1.0	0.18	08/29/16 14:59	
1,3-Butadiene	ug/m3	<0.18	0.45	0.18	08/29/16 14:59	
1,3-Dichlorobenzene	ug/m3	<0.53	1.2	0.53	08/29/16 14:59	
1,4-Dichlorobenzene	ug/m3	<0.50	3.1	0.50	08/29/16 14:59	
2-Butanone (MEK)	ug/m3	<0.23	3.0	0.23	08/29/16 14:59	
2-Hexanone	ug/m3	<0.41	4.2	0.41	08/29/16 14:59	
2-Propanol	ug/m3	<0.24	2.5	0.24	08/29/16 14:59	
4-Ethyltoluene	ug/m3	<0.19	1.0	0.19	08/29/16 14:59	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.22	4.2	0.22	08/29/16 14:59	
Acetone	ug/m3	<0.83	2.4	0.83	08/29/16 14:59	
Benzene	ug/m3	<0.12	0.65	0.12	08/29/16 14:59	
Benzyl chloride	ug/m3	<0.17	1.6	0.17	08/29/16 14:59	
Bromodichloromethane	ug/m3	<0.19	1.4	0.19	08/29/16 14:59	
Bromoform	ug/m3	<0.90	2.1	0.90	08/29/16 14:59	
Bromomethane	ug/m3	<0.31	2.0	0.31	08/29/16 14:59	
Carbon disulfide	ug/m3	<0.10	0.63	0.10	08/29/16 14:59	
Carbon tetrachloride	ug/m3	<0.19	0.64	0.19	08/29/16 14:59	
Chlorobenzene	ug/m3	<0.13	0.94	0.13	08/29/16 14:59	
Chloroethane	ug/m3	<0.19	0.54	0.19	08/29/16 14:59	
Chloroform	ug/m3	<0.19	0.99	0.19	08/29/16 14:59	
Chloromethane	ug/m3	<0.11	0.42	0.11	08/29/16 14:59	
cis-1,2-Dichloroethene	ug/m3	<0.25	0.81	0.25	08/29/16 14:59	
cis-1,3-Dichloropropene	ug/m3	<0.37	2.3	0.37	08/29/16 14:59	
Cyclohexane	ug/m3	<0.32	0.70	0.32	08/29/16 14:59	
Dibromochloromethane	ug/m3	<0.86	4.3	0.86	08/29/16 14:59	
Dichlorodifluoromethane	ug/m3	<0.48	1.0	0.48	08/29/16 14:59	
Dichlorotetrafluoroethane	ug/m3	<0.31	1.4	0.31	08/29/16 14:59	
Ethanol	ug/m3	<0.26	1.9	0.26	08/29/16 14:59	
Ethyl acetate	ug/m3	<0.35	1.8	0.35	08/29/16 14:59	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

METHOD BLANK: 2355291

Matrix: Air

Associated Lab Samples: 10360644001, 10360644002, 10360644003, 10360644004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/m3	<0.65	5.4	0.65	08/29/16 14:59	
m&p-Xylene	ug/m3	<0.79	4.4	0.79	08/29/16 14:59	
Methyl-tert-butyl ether	ug/m3	<0.30	4.6	0.30	08/29/16 14:59	
Methylene Chloride	ug/m3	<0.54	3.5	0.54	08/29/16 14:59	
n-Heptane	ug/m3	<0.28	0.83	0.28	08/29/16 14:59	
n-Hexane	ug/m3	<0.36	1.8	0.36	08/29/16 14:59	
Naphthalene	ug/m3	<0.30	2.7	0.30	08/29/16 14:59	
o-Xylene	ug/m3	<0.35	0.88	0.35	08/29/16 14:59	
Propylene	ug/m3	<0.14	0.35	0.14	08/29/16 14:59	
Styrene	ug/m3	<0.19	0.87	0.19	08/29/16 14:59	
Tetrachloroethene	ug/m3	<0.28	1.4	0.28	08/29/16 14:59	
Tetrahydrofuran	ug/m3	<0.12	0.60	0.12	08/29/16 14:59	
Toluene	ug/m3	<0.15	0.77	0.15	08/29/16 14:59	
trans-1,2-Dichloroethene	ug/m3	<0.38	0.81	0.38	08/29/16 14:59	
trans-1,3-Dichloropropene	ug/m3	<0.26	2.3	0.26	08/29/16 14:59	
Trichloroethene	ug/m3	<0.28	1.1	0.28	08/29/16 14:59	
Trichlorofluoromethane	ug/m3	<0.13	1.1	0.13	08/29/16 14:59	
Vinyl acetate	ug/m3	<0.33	0.72	0.33	08/29/16 14:59	
Vinyl chloride	ug/m3	<0.20	0.52	0.20	08/29/16 14:59	

LABORATORY CONTROL SAMPLE: 2355292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	58.9	106	60-143	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	75.2	108	49-150	
1,1,2-Trichloroethane	ug/m3	55.5	60.2	108	57-149	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	79.9	103	66-131	
1,1-Dichloroethane	ug/m3	41.2	43.5	106	62-139	
1,1-Dichloroethene	ug/m3	40.3	41.3	102	62-135	
1,2,4-Trichlorobenzene	ug/m3	75.5	77.2	102	55-146	
1,2,4-Trimethylbenzene	ug/m3	50	54.9	110	57-143	
1,2-Dibromoethane (EDB)	ug/m3	78.1	80.2	103	63-150	
1,2-Dichlorobenzene	ug/m3	61.2	64.0	105	57-141	
1,2-Dichloroethane	ug/m3	41.2	43.6	106	61-144	
1,2-Dichloropropane	ug/m3	47	48.9	104	63-144	
1,3,5-Trimethylbenzene	ug/m3	50	54.0	108	54-147	
1,3-Butadiene	ug/m3	22.5	23.5	105	61-140	
1,3-Dichlorobenzene	ug/m3	61.2	66.8	109	51-150	
1,4-Dichlorobenzene	ug/m3	61.2	63.5	104	57-143	
2-Butanone (MEK)	ug/m3	30	27.4	91	66-144	
2-Hexanone	ug/m3	104	115	111	63-147	
2-Propanol	ug/m3	125	138	111	54-146	
4-Ethyltoluene	ug/m3	50	53.8	108	56-150	
4-Methyl-2-pentanone (MIBK)	ug/m3	104	112	108	58-150	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

LABORATORY CONTROL SAMPLE: 2355292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/m3	121	137	113	46-140	
Benzene	ug/m3	32.5	34.5	106	62-141	
Benzyl chloride	ug/m3	52.5	53.0	101	66-138	
Bromodichloromethane	ug/m3	68.2	72.6	107	58-149	
Bromoform	ug/m3	105	113	107	61-150	
Bromomethane	ug/m3	39.5	34.3	87	58-136	
Carbon disulfide	ug/m3	31.7	32.0	101	59-135	
Carbon tetrachloride	ug/m3	64	67.9	106	60-149	
Chlorobenzene	ug/m3	46.8	49.4	106	60-150	
Chloroethane	ug/m3	26.8	28.2	105	61-136	
Chloroform	ug/m3	49.7	47.2	95	65-138	
Chloromethane	ug/m3	21	22.3	106	62-133	
cis-1,2-Dichloroethene	ug/m3	40.3	46.9	116	65-139	
cis-1,3-Dichloropropene	ug/m3	46.2	47.3	102	61-149	
Cyclohexane	ug/m3	35	38.5	110	64-134	
Dibromochloromethane	ug/m3	86.6	86.7	100	59-150	
Dichlorodifluoromethane	ug/m3	50.3	56.6	113	63-134	
Dichlorotetrafluoroethane	ug/m3	71.1	77.2	109	62-134	
Ethanol	ug/m3	95.8	105	109	50-144	
Ethyl acetate	ug/m3	36.6	40.5	110	55-146	
Hexachloro-1,3-butadiene	ug/m3	108	106	97	42-150	
m&p-Xylene	ug/m3	88.3	95.0	108	59-146	
Methyl-tert-butyl ether	ug/m3	91.6	76.4	83	64-135	
Methylene Chloride	ug/m3	177	181	102	64-128	
n-Heptane	ug/m3	41.7	44.7	107	64-140	
n-Hexane	ug/m3	35.8	35.3	99	50-138	
Naphthalene	ug/m3	53.3	52.2	98	46-146	
o-Xylene	ug/m3	44.2	47.5	108	54-149	
Propylene	ug/m3	17.5	20.1	115	58-135	
Styrene	ug/m3	43.3	45.9	106	54-150	
Tetrachloroethene	ug/m3	69	73.9	107	60-142	
Tetrahydrofuran	ug/m3	30	31.7	106	56-143	
Toluene	ug/m3	38.3	41.3	108	61-138	
trans-1,2-Dichloroethene	ug/m3	40.3	33.8	84	67-137	
trans-1,3-Dichloropropene	ug/m3	46.2	46.9	102	59-145	
Trichloroethene	ug/m3	54.6	57.6	105	60-144	
Trichlorofluoromethane	ug/m3	57.1	65.6	115	59-134	
Vinyl acetate	ug/m3	35.8	37.8	106	55-143	
Vinyl chloride	ug/m3	26	27.8	107	63-135	

SAMPLE DUPLICATE: 2356142

Parameter	Units	10360644001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.45	<0.45		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.60	<0.60		25	

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

SAMPLE DUPLICATE: 2356142

Parameter	Units	10360644001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,2-Trichloroethane	ug/m3	<0.45	<0.45			25
1,1,2-Trichlorotrifluoroethane	ug/m3	1.0J	0.79J			25
1,1-Dichloroethane	ug/m3	<0.29	<0.29			25
1,1-Dichloroethene	ug/m3	<0.44	<0.44			25
1,2,4-Trichlorobenzene	ug/m3	<1.7	<1.7			25
1,2,4-Trimethylbenzene	ug/m3	1.4J	1.4J			25
1,2-Dibromoethane (EDB)	ug/m3	<1.4	<1.4			25
1,2-Dichlorobenzene	ug/m3	<0.94	<0.94			25
1,2-Dichloroethane	ug/m3	<0.38	<0.38			25
1,2-Dichloropropane	ug/m3	<0.49	<0.49			25
1,3,5-Trimethylbenzene	ug/m3	1.4J	1.4J			25
1,3-Butadiene	ug/m3	<0.32	<0.32			25
1,3-Dichlorobenzene	ug/m3	<0.97	<0.97			25
1,4-Dichlorobenzene	ug/m3	2.8J	2.8J			25
2-Butanone (MEK)	ug/m3	<0.42	<0.42			25
2-Hexanone	ug/m3	<0.75	<0.75			25
2-Propanol	ug/m3	4.8	3.9J			25
4-Ethyltoluene	ug/m3	1.6J	2.0			25
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.40	<0.40			25
Acetone	ug/m3	24.3	20.7	16		25
Benzene	ug/m3	0.75J	0.72J			25
Benzyl chloride	ug/m3	<0.30	<0.30			25
Bromodichloromethane	ug/m3	<0.36	<0.36			25
Bromoform	ug/m3	<1.6	<1.6			25
Bromomethane	ug/m3	<0.57	<0.57			25
Carbon disulfide	ug/m3	0.69J	<0.18			25
Carbon tetrachloride	ug/m3	0.83J	0.80J			25
Chlorobenzene	ug/m3	<0.25	<0.25			25
Chloroethane	ug/m3	<0.36	<0.36			25
Chloroform	ug/m3	<0.35	1.0J			25
Chloromethane	ug/m3	1.5	1.3	19		25
cis-1,2-Dichloroethene	ug/m3	<0.45	<0.45			25
cis-1,3-Dichloropropene	ug/m3	<0.68	<0.68			25
Cyclohexane	ug/m3	<0.58	<0.58			25
Dibromochloromethane	ug/m3	<1.6	<1.6			25
Dichlorodifluoromethane	ug/m3	3.1	2.7	16		25
Dichlorotetrafluoroethane	ug/m3	<0.57	<0.57			25
Ethanol	ug/m3	35.6	30.4	16		25
Ethyl acetate	ug/m3	2.4J	2.1J			25
Hexachloro-1,3-butadiene	ug/m3	<1.2	<1.2			25
m&p-Xylene	ug/m3	3.5J	3.6J			25
Methyl-tert-butyl ether	ug/m3	<0.55	<0.55			25
Methylene Chloride	ug/m3	<0.99	<0.99			25
n-Heptane	ug/m3	1.4J	1.2J			25
n-Hexane	ug/m3	2.0J	1.6J			25
Naphthalene	ug/m3	3.6J	3.3J			25
o-Xylene	ug/m3	0.99J	1.1J			25

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

SAMPLE DUPLICATE: 2356142

Parameter	Units	10360644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Propylene	ug/m3	<0.25	<0.25		25	
Styrene	ug/m3	1.6J	1.5J		25	
Tetrachloroethene	ug/m3	<0.51	<0.51		25	
Tetrahydrofuran	ug/m3	<0.22	0.78J		25	
Toluene	ug/m3	2.1	1.8	17	25	
trans-1,2-Dichloroethene	ug/m3	<0.70	<0.70		25	
trans-1,3-Dichloropropene	ug/m3	<0.48	<0.48		25	
Trichloroethene	ug/m3	3.0	2.8	6	25	
Trichlorofluoromethane	ug/m3	2.0J	1.9J		25	
Vinyl acetate	ug/m3	1.1J	0.98J		25	
Vinyl chloride	ug/m3	<0.36	<0.36		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360644

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360644001	MS-OFFICE1-S-2016-08-26	TO-15	433063		
10360644002	MS-OA1-S-2016-08-26	TO-15	433063		
10360644003	ELEM-OFFICE1-S-2016-08-26	TO-15	433063		
10360644004	HS-OFFICE1-S-2016-08-26	TO-15	433063		

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10360644

20486

Page: 1 of 1

Section A
Required Client Information:

Section B
Required Project Information:

Section C
Invoice Information:

Company: **UPRR - GARY HONEYMAN**
Address:
Email To:
Phone:
Requested Due Date/TAT: **8/30/16 (1-day)**

Report To: **Steve Demus**
Copy To: **Mike Niemet**
Purchase Order No.:
Project Name: **Freeman, Wa - Cenex Harvest Lease Site**
Project Number:

Attention: **GARY HONEYMAN**
Company Name: **UPRR**
Address: **221 HODGEMAN, LARAMIE, WY**
Pace Quote Reference:
Pace Project Manager/Sales Rep.:
Pace Profile #:

Program
 UST Superfund Emissions Clean Air Act
 Voluntary Clean Up Dry Clean RCRA Other
Location of Sampling by State: **WA**
Reporting Units: ug/m³ mg/m³
 PPBV PPMV
Report Level: II ___ III ___ IV ___ Other ___

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Tedlar Bag TB 1 Liter Summa Can 1LC 5 Liter Summa Can 5LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method:										Pace Lab ID
					COMPOSITE START END/GRAB		COMPOSITE -						PM10	3C-Fixed Gas (%)	TO-3	TO-5M (Methane)	TO-14 (PCBs)	TO-13 (PAH)	TO-14	TO-15 - SIM	TO-15 Short List		
					DATE	TIME	DATE	TIME															
1	MS-OFFICE 1-S-2016-08-26	6LC	8-26-16 0930	8/27/16 0711	-28.11	-5.07	185	FC0236														001, 005	
2	MS-OA1-S-2016-08-26	6LC	8/26/16 0932	8/27/16 0704	-28.10	-5.72	1523	FC0351															002, 006
3	ELEM-OFFICE 1-S-2016-08-26	6LC	8/26/16 0942	8/27/16 0656	-28.10	-5.19	2359	FC1069															003, 007
4	HS-OFFICE 1-S-2016-08-26	6LC	8/26/16 0956	8/27/16 0734	-28.16	-4.82	1528	FC1025															004, 008
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Comments:
-FULL VOC List
-1-DAY TAT.

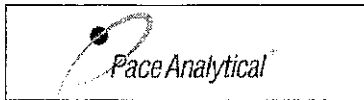
RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
BECKY REWEY / CH2M	8-27-16	10:30	<i>[Signature]</i>	8/27/16	0940	AMB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **BECKY REWEY / CH2M**
 SIGNATURE of SAMPLER: *[Signature]* DATE Signed (MM/DD/YY) **08/27/16**

Temp in °C
 Received on ice
 Custody Sealed Cooler
 Samples Intact

ORIGINAL

Page 24 of 25



Document Name:
Air Sample Condition Upon Receipt
Document No.:
F-MN-A-106-rev.11

Document Revised: 26APR2016
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name:

Project #:

UPRR

WO# : 10360644



Courier: Fed Ex UPS Speedee Client

Commercial Pace Other: _____

Tracking Number: 7839 3551 5836

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____

Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): X Corrected Temp (°C): X

Thermom. Used: B88A912167504 B88A0143310098

151401163 151401164

Temp should be above freezing to 6°C Correction Factor: X

Date & Initials of Person Examining Contents: 8/30/16

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9. Col says s/m. These are not sim cans
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Media: <input checked="" type="checkbox"/> Air Can <input type="checkbox"/> Airbag <input type="checkbox"/> Filter <input type="checkbox"/> TDT <input type="checkbox"/> Passive		11.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.

Samples Received:					
Sample Number	Canisters		Sample Number	Canisters	
	Can ID	Flow Controller ID		Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review:

JENNI GROSS

Date: 08/30/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

August 31, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

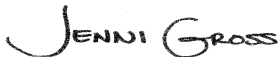
RE: Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10360790

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on August 30, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360790001	MS-OFFICE1-S-2016-08-27	Air	08/28/16 07:28	08/30/16 10:00
10360790002	MS-OA1-S-2016-08-27	Air	08/28/16 07:26	08/30/16 10:00
10360790003	ELEM-OFFICE1-S-2016-08-27	Air	08/28/16 07:19	08/30/16 10:00
10360790004	HS-OFFICE1-S-2016-08-27	Air	08/28/16 07:11	08/30/16 10:00
10360790005	MS-OA1-S-2016-08-28	Air	08/29/16 07:03	08/30/16 10:00
10360790006	MS-OFFICE1-S-2016-08-28	Air	08/29/16 07:07	08/30/16 10:00
10360790007	ELEM-OFFICE1-S-2016-08-28	Air	08/29/16 07:14	08/30/16 10:00
10360790008	HS-OFFICE1-S-2016-08-28	Air	08/29/16 07:23	08/30/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360790001	MS-OFFICE1-S-2016-08-27	TO-15	MJL	60	PASI-M
10360790002	MS-OA1-S-2016-08-27	TO-15	MJL	60	PASI-M
10360790003	ELEM-OFFICE1-S-2016-08-27	TO-15	MJL	60	PASI-M
10360790004	HS-OFFICE1-S-2016-08-27	TO-15	MJL	60	PASI-M
10360790005	MS-OA1-S-2016-08-28	TO-15	MJL	60	PASI-M
10360790006	MS-OFFICE1-S-2016-08-28	TO-15	MJL	60	PASI-M
10360790007	ELEM-OFFICE1-S-2016-08-28	TO-15	MJL	60	PASI-M
10360790008	HS-OFFICE1-S-2016-08-28	TO-15	MJL	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10360790001	MS-OFFICE1-S-2016-08-27					
TO-15	1,1,2,2-Tetrachloroethane	2.6	ug/m3	2.4	08/30/16 12:54	
TO-15	1,2,4-Trimethylbenzene	8.6	ug/m3	1.7	08/30/16 12:54	
TO-15	1,3,5-Trimethylbenzene	4.5	ug/m3	1.7	08/30/16 12:54	
TO-15	1,4-Dichlorobenzene	2.7	ug/m3	2.1	08/30/16 12:54	
TO-15	2-Butanone (MEK)	8.3	ug/m3	5.2	08/30/16 12:54	
TO-15	2-Hexanone	7.6J	ug/m3	9.1	08/30/16 12:54	
TO-15	2-Propanol	6.5	ug/m3	4.4	08/30/16 12:54	
TO-15	4-Ethyltoluene	3.9	ug/m3	1.8	08/30/16 12:54	
TO-15	4-Methyl-2-pentanone (MIBK)	6.0J	ug/m3	9.1	08/30/16 12:54	
TO-15	Acetone	26.0	ug/m3	4.2	08/30/16 12:54	
TO-15	Benzene	0.77	ug/m3	0.57	08/30/16 12:54	
TO-15	Chloromethane	1.2	ug/m3	0.74	08/30/16 12:54	
TO-15	Cyclohexane	2.1	ug/m3	1.2	08/30/16 12:54	
TO-15	Dichlorodifluoromethane	1.9	ug/m3	1.8	08/30/16 12:54	
TO-15	Ethanol	27.7	ug/m3	1.7	08/30/16 12:54	
TO-15	Ethyl acetate	2.9	ug/m3	1.3	08/30/16 12:54	
TO-15	Methylene Chloride	2.2J	ug/m3	6.2	08/30/16 12:54	
TO-15	Naphthalene	6.6	ug/m3	4.7	08/30/16 12:54	
TO-15	Propylene	0.92	ug/m3	0.61	08/30/16 12:54	
TO-15	Styrene	1.1J	ug/m3	1.5	08/30/16 12:54	
TO-15	Tetrachloroethene	0.72J	ug/m3	1.2	08/30/16 12:54	
TO-15	Toluene	3.3	ug/m3	1.3	08/30/16 12:54	
TO-15	Trichlorofluoromethane	1.2J	ug/m3	2.0	08/30/16 12:54	
TO-15	Vinyl acetate	1.5	ug/m3	1.3	08/30/16 12:54	
TO-15	m&p-Xylene	14.5	ug/m3	7.7	08/30/16 12:54	
TO-15	n-Heptane	3.1	ug/m3	1.5	08/30/16 12:54	
TO-15	n-Hexane	3.5	ug/m3	1.3	08/30/16 12:54	
TO-15	o-Xylene	3.9	ug/m3	1.5	08/30/16 12:54	
10360790002	MS-OA1-S-2016-08-27					
TO-15	1,2,4-Trimethylbenzene	1.8	ug/m3	1.7	08/30/16 13:50	
TO-15	1,3,5-Trimethylbenzene	1.1J	ug/m3	1.7	08/30/16 13:50	
TO-15	2-Hexanone	4.8J	ug/m3	9.1	08/30/16 13:50	
TO-15	2-Propanol	3.3J	ug/m3	4.4	08/30/16 13:50	
TO-15	4-Methyl-2-pentanone (MIBK)	3.9J	ug/m3	9.1	08/30/16 13:50	
TO-15	Acetone	65.1	ug/m3	4.2	08/30/16 13:50	
TO-15	Benzene	0.43J	ug/m3	0.57	08/30/16 13:50	
TO-15	Carbon tetrachloride	0.61J	ug/m3	1.1	08/30/16 13:50	
TO-15	Chloromethane	1.2	ug/m3	0.74	08/30/16 13:50	
TO-15	Cyclohexane	2.2	ug/m3	1.2	08/30/16 13:50	
TO-15	Dichlorodifluoromethane	2.2	ug/m3	1.8	08/30/16 13:50	
TO-15	Ethanol	29.3	ug/m3	1.7	08/30/16 13:50	
TO-15	Ethyl acetate	3.4	ug/m3	1.3	08/30/16 13:50	
TO-15	Methylene Chloride	330	ug/m3	6.2	08/30/16 13:50	
TO-15	Naphthalene	4.9	ug/m3	4.7	08/30/16 13:50	
TO-15	Styrene	0.91J	ug/m3	1.5	08/30/16 13:50	
TO-15	Toluene	8.6	ug/m3	1.3	08/30/16 13:50	
TO-15	Trichlorofluoromethane	1.7J	ug/m3	2.0	08/30/16 13:50	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10360790002	MS-OA1-S-2016-08-27					
TO-15	m&p-Xylene	4.7J	ug/m3	7.7	08/30/16 13:50	
TO-15	n-Hexane	165	ug/m3	1.3	08/30/16 13:50	
TO-15	o-Xylene	0.83J	ug/m3	1.5	08/30/16 13:50	
10360790003	ELEM-OFFICE1-S-2016-08-27					
TO-15	1,2,4-Trimethylbenzene	8.8	ug/m3	1.8	08/30/16 14:45	
TO-15	1,2-Dichloroethane	2.5	ug/m3	0.75	08/30/16 14:45	
TO-15	1,3,5-Trimethylbenzene	2.8	ug/m3	1.8	08/30/16 14:45	
TO-15	2-Butanone (MEK)	2.6J	ug/m3	5.5	08/30/16 14:45	
TO-15	2-Hexanone	5.1J	ug/m3	9.5	08/30/16 14:45	
TO-15	2-Propanol	6.8	ug/m3	4.6	08/30/16 14:45	
TO-15	4-Ethyltoluene	3.5	ug/m3	1.8	08/30/16 14:45	
TO-15	4-Methyl-2-pentanone (MIBK)	4.1J	ug/m3	9.5	08/30/16 14:45	
TO-15	Acetone	29.7	ug/m3	4.4	08/30/16 14:45	
TO-15	Chloromethane	1.1	ug/m3	0.77	08/30/16 14:45	
TO-15	Cyclohexane	4.0	ug/m3	1.3	08/30/16 14:45	
TO-15	Dichlorodifluoromethane	2.0	ug/m3	1.8	08/30/16 14:45	
TO-15	Ethanol	46.6	ug/m3	1.8	08/30/16 14:45	
TO-15	Methylene Chloride	2.2J	ug/m3	6.5	08/30/16 14:45	
TO-15	Naphthalene	6.5	ug/m3	4.9	08/30/16 14:45	
TO-15	Propylene	0.60J	ug/m3	0.64	08/30/16 14:45	
TO-15	Styrene	1.0J	ug/m3	1.6	08/30/16 14:45	
TO-15	Tetrachloroethene	1.1J	ug/m3	1.3	08/30/16 14:45	
TO-15	Toluene	3.4	ug/m3	1.4	08/30/16 14:45	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	2.1	08/30/16 14:45	
TO-15	Vinyl acetate	1.0J	ug/m3	1.3	08/30/16 14:45	
TO-15	Vinyl chloride	1.1	ug/m3	0.48	08/30/16 14:45	
TO-15	m&p-Xylene	4.9J	ug/m3	8.1	08/30/16 14:45	
TO-15	n-Heptane	1.0J	ug/m3	1.5	08/30/16 14:45	
TO-15	n-Hexane	1.5	ug/m3	1.3	08/30/16 14:45	
TO-15	o-Xylene	0.89J	ug/m3	1.6	08/30/16 14:45	
10360790004	HS-OFFICE1-S-2016-08-27					
TO-15	1,2,4-Trimethylbenzene	4.2	ug/m3	2.0	08/30/16 15:12	
TO-15	1,3,5-Trimethylbenzene	1.9J	ug/m3	2.0	08/30/16 15:12	
TO-15	1,4-Dichlorobenzene	2.5	ug/m3	2.5	08/30/16 15:12	
TO-15	2-Butanone (MEK)	7.3	ug/m3	6.0	08/30/16 15:12	
TO-15	2-Hexanone	9.6J	ug/m3	10.5	08/30/16 15:12	
TO-15	2-Propanol	20.1	ug/m3	5.0	08/30/16 15:12	
TO-15	4-Ethyltoluene	2.2	ug/m3	2.0	08/30/16 15:12	
TO-15	4-Methyl-2-pentanone (MIBK)	7.9J	ug/m3	10.5	08/30/16 15:12	
TO-15	Acetone	50.8	ug/m3	4.9	08/30/16 15:12	
TO-15	Benzene	0.46J	ug/m3	0.65	08/30/16 15:12	
TO-15	Chloroform	1.2	ug/m3	1.0	08/30/16 15:12	
TO-15	Chloromethane	1.4	ug/m3	0.84	08/30/16 15:12	
TO-15	Cyclohexane	7.4	ug/m3	1.4	08/30/16 15:12	
TO-15	Dichlorodifluoromethane	1.8J	ug/m3	2.0	08/30/16 15:12	
TO-15	Ethanol	69.8	ug/m3	1.9	08/30/16 15:12	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10360790004	HS-OFFICE1-S-2016-08-27					
TO-15	Ethyl acetate	4.5	ug/m3	1.5	08/30/16 15:12	
TO-15	Methyl-tert-butyl ether	2.6J	ug/m3	7.4	08/30/16 15:12	
TO-15	Methylene Chloride	4.5J	ug/m3	7.1	08/30/16 15:12	
TO-15	Naphthalene	10.7	ug/m3	5.3	08/30/16 15:12	
TO-15	Tetrahydrofuran	2.4	ug/m3	1.2	08/30/16 15:12	
TO-15	Toluene	5.6	ug/m3	1.5	08/30/16 15:12	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	2.3	08/30/16 15:12	
TO-15	Vinyl acetate	2.5	ug/m3	1.4	08/30/16 15:12	
TO-15	m&p-Xylene	6.0J	ug/m3	8.9	08/30/16 15:12	
TO-15	n-Heptane	1.9	ug/m3	1.7	08/30/16 15:12	
TO-15	n-Hexane	3.9	ug/m3	1.4	08/30/16 15:12	
TO-15	o-Xylene	1.2J	ug/m3	1.8	08/30/16 15:12	
10360790005	MS-OA1-S-2016-08-28					
TO-15	1,2,4-Trimethylbenzene	1.7J	ug/m3	1.8	08/30/16 15:40	
TO-15	2-Butanone (MEK)	2.4J	ug/m3	5.5	08/30/16 15:40	
TO-15	2-Hexanone	5.3J	ug/m3	9.5	08/30/16 15:40	
TO-15	2-Propanol	1.2J	ug/m3	4.6	08/30/16 15:40	
TO-15	Acetone	12.7	ug/m3	4.4	08/30/16 15:40	
TO-15	Chloromethane	0.91	ug/m3	0.77	08/30/16 15:40	
TO-15	Dichlorodifluoromethane	1.8J	ug/m3	1.8	08/30/16 15:40	
TO-15	Ethanol	7.9	ug/m3	1.8	08/30/16 15:40	
TO-15	Methylene Chloride	2.0J	ug/m3	6.5	08/30/16 15:40	
TO-15	Propylene	0.40J	ug/m3	0.64	08/30/16 15:40	
TO-15	Toluene	0.91J	ug/m3	1.4	08/30/16 15:40	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	2.1	08/30/16 15:40	
TO-15	Vinyl acetate	1.1J	ug/m3	1.3	08/30/16 15:40	
TO-15	m&p-Xylene	4.2J	ug/m3	8.1	08/30/16 15:40	
TO-15	n-Hexane	0.97J	ug/m3	1.3	08/30/16 15:40	
10360790006	MS-OFFICE1-S-2016-08-28					
TO-15	1,2,4-Trimethylbenzene	2.1	ug/m3	1.8	08/30/16 16:07	
TO-15	1,3,5-Trimethylbenzene	1.2J	ug/m3	1.8	08/30/16 16:07	
TO-15	1,4-Dichlorobenzene	2.3	ug/m3	2.2	08/30/16 16:07	
TO-15	2-Butanone (MEK)	3.0J	ug/m3	5.5	08/30/16 16:07	
TO-15	2-Hexanone	5.0J	ug/m3	9.5	08/30/16 16:07	
TO-15	2-Propanol	6.1	ug/m3	4.6	08/30/16 16:07	
TO-15	4-Methyl-2-pentanone (MIBK)	4.1J	ug/m3	9.5	08/30/16 16:07	
TO-15	Acetone	15.6	ug/m3	4.4	08/30/16 16:07	
TO-15	Benzene	0.63	ug/m3	0.59	08/30/16 16:07	
TO-15	Chloromethane	1.3	ug/m3	0.77	08/30/16 16:07	
TO-15	Dichlorodifluoromethane	1.8J	ug/m3	1.8	08/30/16 16:07	
TO-15	Ethanol	30.5	ug/m3	1.8	08/30/16 16:07	
TO-15	Methylene Chloride	3.2J	ug/m3	6.5	08/30/16 16:07	
TO-15	Toluene	2.4	ug/m3	1.4	08/30/16 16:07	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	2.1	08/30/16 16:07	
TO-15	Vinyl acetate	0.93J	ug/m3	1.3	08/30/16 16:07	
TO-15	m&p-Xylene	4.8J	ug/m3	8.1	08/30/16 16:07	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10360790006	MS-OFFICE1-S-2016-08-28					
TO-15	n-Heptane	1.5J	ug/m3	1.5	08/30/16 16:07	
TO-15	n-Hexane	1.9	ug/m3	1.3	08/30/16 16:07	
10360790007	ELEM-OFFICE1-S-2016-08-28					
TO-15	1,2,4-Trimethylbenzene	2.2	ug/m3	1.8	08/30/16 16:35	
TO-15	1,2-Dichloroethane	0.89	ug/m3	0.75	08/30/16 16:35	
TO-15	1,3,5-Trimethylbenzene	1.2J	ug/m3	1.8	08/30/16 16:35	
TO-15	2-Hexanone	4.9J	ug/m3	9.5	08/30/16 16:35	
TO-15	2-Propanol	8.9	ug/m3	4.6	08/30/16 16:35	
TO-15	4-Methyl-2-pentanone (MIBK)	4.4J	ug/m3	9.5	08/30/16 16:35	
TO-15	Acetone	370	ug/m3	4.4	08/30/16 16:35	
TO-15	Benzene	0.67	ug/m3	0.59	08/30/16 16:35	
TO-15	Carbon tetrachloride	0.76J	ug/m3	1.2	08/30/16 16:35	
TO-15	Chloromethane	1.5	ug/m3	0.77	08/30/16 16:35	
TO-15	Cyclohexane	2.8	ug/m3	1.3	08/30/16 16:35	
TO-15	Dichlorodifluoromethane	2.4	ug/m3	1.8	08/30/16 16:35	
TO-15	Ethanol	78.6	ug/m3	1.8	08/30/16 16:35	
TO-15	Ethyl acetate	3.2	ug/m3	1.3	08/30/16 16:35	
TO-15	Methylene Chloride	181	ug/m3	34.6	08/31/16 10:51	
TO-15	Styrene	1.3J	ug/m3	1.6	08/30/16 16:35	
TO-15	Tetrahydrofuran	10.8	ug/m3	1.1	08/30/16 16:35	
TO-15	Toluene	17.1	ug/m3	1.4	08/30/16 16:35	
TO-15	Trichlorofluoromethane	2.0J	ug/m3	2.1	08/30/16 16:35	
TO-15	Vinyl chloride	0.68	ug/m3	0.48	08/30/16 16:35	
TO-15	m&p-Xylene	5.7J	ug/m3	8.1	08/30/16 16:35	
TO-15	n-Heptane	2.1	ug/m3	1.5	08/30/16 16:35	
TO-15	n-Hexane	37.6	ug/m3	7.1	08/31/16 10:51	
TO-15	o-Xylene	1.4J	ug/m3	1.6	08/30/16 16:35	
10360790008	HS-OFFICE1-S-2016-08-28					
TO-15	1,2,4-Trimethylbenzene	3.8	ug/m3	1.8	08/30/16 17:02	
TO-15	1,2-Dichlorobenzene	2.3	ug/m3	2.2	08/30/16 17:02	
TO-15	1,3,5-Trimethylbenzene	1.8J	ug/m3	1.8	08/30/16 17:02	
TO-15	1,3-Dichlorobenzene	2.2J	ug/m3	2.2	08/30/16 17:02	
TO-15	1,4-Dichlorobenzene	2.4	ug/m3	2.2	08/30/16 17:02	
TO-15	2-Butanone (MEK)	5.0J	ug/m3	5.5	08/30/16 17:02	
TO-15	2-Hexanone	5.8J	ug/m3	9.5	08/30/16 17:02	
TO-15	2-Propanol	14.3	ug/m3	4.6	08/30/16 17:02	
TO-15	4-Methyl-2-pentanone (MIBK)	4.5J	ug/m3	9.5	08/30/16 17:02	
TO-15	Acetone	42.0	ug/m3	4.4	08/30/16 17:02	
TO-15	Benzene	0.48J	ug/m3	0.59	08/30/16 17:02	
TO-15	Chloroform	0.75J	ug/m3	0.91	08/30/16 17:02	
TO-15	Chloromethane	1.4	ug/m3	0.77	08/30/16 17:02	
TO-15	Cyclohexane	7.1	ug/m3	1.3	08/30/16 17:02	
TO-15	Dichlorodifluoromethane	1.9	ug/m3	1.8	08/30/16 17:02	
TO-15	Ethanol	37.3	ug/m3	1.8	08/30/16 17:02	
TO-15	Ethyl acetate	4.0	ug/m3	1.3	08/30/16 17:02	
TO-15	Methylene Chloride	3.9J	ug/m3	6.5	08/30/16 17:02	

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10360790008	HS-OFFICE1-S-2016-08-28					
TO-15	Naphthalene	5.9	ug/m3	4.9	08/30/16 17:02	
TO-15	Styrene	1.7	ug/m3	1.6	08/30/16 17:02	
TO-15	Tetrachloroethene	1.2J	ug/m3	1.3	08/30/16 17:02	
TO-15	Tetrahydrofuran	1.3	ug/m3	1.1	08/30/16 17:02	
TO-15	Toluene	7.5	ug/m3	1.4	08/30/16 17:02	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	2.1	08/30/16 17:02	
TO-15	Vinyl acetate	2.0	ug/m3	1.3	08/30/16 17:02	
TO-15	m&p-Xylene	5.6J	ug/m3	8.1	08/30/16 17:02	
TO-15	n-Heptane	2.2	ug/m3	1.5	08/30/16 17:02	
TO-15	n-Hexane	1.5	ug/m3	1.3	08/30/16 17:02	
TO-15	o-Xylene	1.3J	ug/m3	1.6	08/30/16 17:02	

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Method: TO-15

Description: TO15 MSV AIR

Client: UPRR_CH2M Hill

Date: August 31, 2016

General Information:

8 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: **MS-OFFICE1-S-2016-08-27** Lab ID: **10360790001** Collected: 08/28/16 07:28 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.43	ug/m3	1.9	0.43	1.75		08/30/16 12:54	71-55-6	
1,1,2,2-Tetrachloroethane	2.6	ug/m3	2.4	0.58	1.75		08/30/16 12:54	79-34-5	
1,1,2-Trichloroethane	<0.43	ug/m3	0.96	0.43	1.75		08/30/16 12:54	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.53	ug/m3	2.8	0.53	1.75		08/30/16 12:54	76-13-1	
1,1-Dichloroethane	<0.27	ug/m3	1.4	0.27	1.75		08/30/16 12:54	75-34-3	
1,1-Dichloroethene	<0.42	ug/m3	1.4	0.42	1.75		08/30/16 12:54	75-35-4	
1,2,4-Trichlorobenzene	<1.6	ug/m3	6.6	1.6	1.75		08/30/16 12:54	120-82-1	
1,2,4-Trimethylbenzene	8.6	ug/m3	1.7	0.22	1.75		08/30/16 12:54	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.7	1.4	1.75		08/30/16 12:54	106-93-4	
1,2-Dichlorobenzene	<0.90	ug/m3	2.1	0.90	1.75		08/30/16 12:54	95-50-1	
1,2-Dichloroethane	<0.36	ug/m3	0.72	0.36	1.75		08/30/16 12:54	107-06-2	
1,2-Dichloropropane	<0.47	ug/m3	1.6	0.47	1.75		08/30/16 12:54	78-87-5	
1,3,5-Trimethylbenzene	4.5	ug/m3	1.7	0.32	1.75		08/30/16 12:54	108-67-8	
1,3-Butadiene	<0.31	ug/m3	0.79	0.31	1.75		08/30/16 12:54	106-99-0	
1,3-Dichlorobenzene	<0.93	ug/m3	2.1	0.93	1.75		08/30/16 12:54	541-73-1	
1,4-Dichlorobenzene	2.7	ug/m3	2.1	0.87	1.75		08/30/16 12:54	106-46-7	
2-Butanone (MEK)	8.3	ug/m3	5.2	0.40	1.75		08/30/16 12:54	78-93-3	
2-Hexanone	7.6J	ug/m3	9.1	0.72	1.75		08/30/16 12:54	591-78-6	
2-Propanol	6.5	ug/m3	4.4	0.42	1.75		08/30/16 12:54	67-63-0	
4-Ethyltoluene	3.9	ug/m3	1.8	0.33	1.75		08/30/16 12:54	622-96-8	
4-Methyl-2-pentanone (MIBK)	6.0J	ug/m3	9.1	0.38	1.75		08/30/16 12:54	108-10-1	
Acetone	26.0	ug/m3	4.2	1.5	1.75		08/30/16 12:54	67-64-1	
Benzene	0.77	ug/m3	0.57	0.21	1.75		08/30/16 12:54	71-43-2	
Benzyl chloride	<0.29	ug/m3	4.6	0.29	1.75		08/30/16 12:54	100-44-7	
Bromodichloromethane	<0.34	ug/m3	2.4	0.34	1.75		08/30/16 12:54	75-27-4	
Bromoform	<1.6	ug/m3	3.7	1.6	1.75		08/30/16 12:54	75-25-2	
Bromomethane	<0.54	ug/m3	1.4	0.54	1.75		08/30/16 12:54	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.1	0.18	1.75		08/30/16 12:54	75-15-0	
Carbon tetrachloride	<0.34	ug/m3	1.1	0.34	1.75		08/30/16 12:54	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.75		08/30/16 12:54	108-90-7	
Chloroethane	<0.34	ug/m3	0.94	0.34	1.75		08/30/16 12:54	75-00-3	
Chloroform	<0.33	ug/m3	0.87	0.33	1.75		08/30/16 12:54	67-66-3	
Chloromethane	1.2	ug/m3	0.74	0.19	1.75		08/30/16 12:54	74-87-3	
Cyclohexane	2.1	ug/m3	1.2	0.55	1.75		08/30/16 12:54	110-82-7	
Dibromochloromethane	<1.5	ug/m3	3.0	1.5	1.75		08/30/16 12:54	124-48-1	
Dichlorodifluoromethane	1.9	ug/m3	1.8	0.84	1.75		08/30/16 12:54	75-71-8	
Dichlorotetrafluoroethane	<0.54	ug/m3	2.5	0.54	1.75		08/30/16 12:54	76-14-2	
Ethanol	27.7	ug/m3	1.7	0.46	1.75		08/30/16 12:54	64-17-5	
Ethyl acetate	2.9	ug/m3	1.3	0.61	1.75		08/30/16 12:54	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.8	1.1	1.75		08/30/16 12:54	87-68-3	
Methyl-tert-butyl ether	<0.53	ug/m3	6.4	0.53	1.75		08/30/16 12:54	1634-04-4	
Methylene Chloride	2.2J	ug/m3	6.2	0.95	1.75		08/30/16 12:54	75-09-2	
Naphthalene	6.6	ug/m3	4.7	0.53	1.75		08/30/16 12:54	91-20-3	
Propylene	0.92	ug/m3	0.61	0.24	1.75		08/30/16 12:54	115-07-1	
Styrene	1.1J	ug/m3	1.5	0.34	1.75		08/30/16 12:54	100-42-5	
Tetrachloroethene	0.72J	ug/m3	1.2	0.49	1.75		08/30/16 12:54	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: MS-OFFICE1-S-2016-08-27 **Lab ID: 10360790001** Collected: 08/28/16 07:28 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.21	ug/m3	1.0	0.21	1.75		08/30/16 12:54	109-99-9	
Toluene	3.3	ug/m3	1.3	0.27	1.75		08/30/16 12:54	108-88-3	
Trichloroethene	<0.48	ug/m3	0.96	0.48	1.75		08/30/16 12:54	79-01-6	
Trichlorofluoromethane	1.2J	ug/m3	2.0	0.23	1.75		08/30/16 12:54	75-69-4	
Vinyl acetate	1.5	ug/m3	1.3	0.58	1.75		08/30/16 12:54	108-05-4	
Vinyl chloride	<0.34	ug/m3	0.46	0.34	1.75		08/30/16 12:54	75-01-4	
cis-1,2-Dichloroethene	<0.43	ug/m3	1.4	0.43	1.75		08/30/16 12:54	156-59-2	
cis-1,3-Dichloropropene	<0.65	ug/m3	4.0	0.65	1.75		08/30/16 12:54	10061-01-5	
m&p-Xylene	14.5	ug/m3	7.7	1.4	1.75		08/30/16 12:54	179601-23-1	
n-Heptane	3.1	ug/m3	1.5	0.49	1.75		08/30/16 12:54	142-82-5	
n-Hexane	3.5	ug/m3	1.3	0.62	1.75		08/30/16 12:54	110-54-3	
o-Xylene	3.9	ug/m3	1.5	0.61	1.75		08/30/16 12:54	95-47-6	
trans-1,2-Dichloroethene	<0.67	ug/m3	1.4	0.67	1.75		08/30/16 12:54	156-60-5	
trans-1,3-Dichloropropene	<0.46	ug/m3	4.0	0.46	1.75		08/30/16 12:54	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: **MS-OA1-S-2016-08-27** Lab ID: **10360790002** Collected: 08/28/16 07:26 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.43	ug/m3	1.9	0.43	1.75		08/30/16 13:50	71-55-6	
1,1,2,2-Tetrachloroethane	<0.58	ug/m3	2.4	0.58	1.75		08/30/16 13:50	79-34-5	
1,1,2-Trichloroethane	<0.43	ug/m3	0.96	0.43	1.75		08/30/16 13:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.53	ug/m3	2.8	0.53	1.75		08/30/16 13:50	76-13-1	
1,1-Dichloroethane	<0.27	ug/m3	1.4	0.27	1.75		08/30/16 13:50	75-34-3	
1,1-Dichloroethene	<0.42	ug/m3	1.4	0.42	1.75		08/30/16 13:50	75-35-4	
1,2,4-Trichlorobenzene	<1.6	ug/m3	6.6	1.6	1.75		08/30/16 13:50	120-82-1	
1,2,4-Trimethylbenzene	1.8	ug/m3	1.7	0.22	1.75		08/30/16 13:50	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.7	1.4	1.75		08/30/16 13:50	106-93-4	
1,2-Dichlorobenzene	<0.90	ug/m3	2.1	0.90	1.75		08/30/16 13:50	95-50-1	
1,2-Dichloroethane	<0.36	ug/m3	0.72	0.36	1.75		08/30/16 13:50	107-06-2	
1,2-Dichloropropane	<0.47	ug/m3	1.6	0.47	1.75		08/30/16 13:50	78-87-5	
1,3,5-Trimethylbenzene	1.1J	ug/m3	1.7	0.32	1.75		08/30/16 13:50	108-67-8	
1,3-Butadiene	<0.31	ug/m3	0.79	0.31	1.75		08/30/16 13:50	106-99-0	
1,3-Dichlorobenzene	<0.93	ug/m3	2.1	0.93	1.75		08/30/16 13:50	541-73-1	
1,4-Dichlorobenzene	<0.87	ug/m3	2.1	0.87	1.75		08/30/16 13:50	106-46-7	
2-Butanone (MEK)	<0.40	ug/m3	5.2	0.40	1.75		08/30/16 13:50	78-93-3	
2-Hexanone	4.8J	ug/m3	9.1	0.72	1.75		08/30/16 13:50	591-78-6	
2-Propanol	3.3J	ug/m3	4.4	0.42	1.75		08/30/16 13:50	67-63-0	
4-Ethyltoluene	<0.33	ug/m3	1.8	0.33	1.75		08/30/16 13:50	622-96-8	
4-Methyl-2-pentanone (MIBK)	3.9J	ug/m3	9.1	0.38	1.75		08/30/16 13:50	108-10-1	
Acetone	65.1	ug/m3	4.2	1.5	1.75		08/30/16 13:50	67-64-1	
Benzene	0.43J	ug/m3	0.57	0.21	1.75		08/30/16 13:50	71-43-2	
Benzyl chloride	<0.29	ug/m3	4.6	0.29	1.75		08/30/16 13:50	100-44-7	
Bromodichloromethane	<0.34	ug/m3	2.4	0.34	1.75		08/30/16 13:50	75-27-4	
Bromoform	<1.6	ug/m3	3.7	1.6	1.75		08/30/16 13:50	75-25-2	
Bromomethane	<0.54	ug/m3	1.4	0.54	1.75		08/30/16 13:50	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.1	0.18	1.75		08/30/16 13:50	75-15-0	
Carbon tetrachloride	0.61J	ug/m3	1.1	0.34	1.75		08/30/16 13:50	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.75		08/30/16 13:50	108-90-7	
Chloroethane	<0.34	ug/m3	0.94	0.34	1.75		08/30/16 13:50	75-00-3	
Chloroform	<0.33	ug/m3	0.87	0.33	1.75		08/30/16 13:50	67-66-3	
Chloromethane	1.2	ug/m3	0.74	0.19	1.75		08/30/16 13:50	74-87-3	
Cyclohexane	2.2	ug/m3	1.2	0.55	1.75		08/30/16 13:50	110-82-7	
Dibromochloromethane	<1.5	ug/m3	3.0	1.5	1.75		08/30/16 13:50	124-48-1	
Dichlorodifluoromethane	2.2	ug/m3	1.8	0.84	1.75		08/30/16 13:50	75-71-8	
Dichlorotetrafluoroethane	<0.54	ug/m3	2.5	0.54	1.75		08/30/16 13:50	76-14-2	
Ethanol	29.3	ug/m3	1.7	0.46	1.75		08/30/16 13:50	64-17-5	
Ethyl acetate	3.4	ug/m3	1.3	0.61	1.75		08/30/16 13:50	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.8	1.1	1.75		08/30/16 13:50	87-68-3	
Methyl-tert-butyl ether	<0.53	ug/m3	6.4	0.53	1.75		08/30/16 13:50	1634-04-4	
Methylene Chloride	330	ug/m3	6.2	0.95	1.75		08/30/16 13:50	75-09-2	
Naphthalene	4.9	ug/m3	4.7	0.53	1.75		08/30/16 13:50	91-20-3	
Propylene	<0.24	ug/m3	0.61	0.24	1.75		08/30/16 13:50	115-07-1	
Styrene	0.91J	ug/m3	1.5	0.34	1.75		08/30/16 13:50	100-42-5	
Tetrachloroethene	<0.49	ug/m3	1.2	0.49	1.75		08/30/16 13:50	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: MS-OA1-S-2016-08-27 **Lab ID: 10360790002** Collected: 08/28/16 07:26 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.21	ug/m3	1.0	0.21	1.75		08/30/16 13:50	109-99-9	
Toluene	8.6	ug/m3	1.3	0.27	1.75		08/30/16 13:50	108-88-3	
Trichloroethene	<0.48	ug/m3	0.96	0.48	1.75		08/30/16 13:50	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	2.0	0.23	1.75		08/30/16 13:50	75-69-4	
Vinyl acetate	<0.58	ug/m3	1.3	0.58	1.75		08/30/16 13:50	108-05-4	
Vinyl chloride	<0.34	ug/m3	0.46	0.34	1.75		08/30/16 13:50	75-01-4	
cis-1,2-Dichloroethene	<0.43	ug/m3	1.4	0.43	1.75		08/30/16 13:50	156-59-2	
cis-1,3-Dichloropropene	<0.65	ug/m3	4.0	0.65	1.75		08/30/16 13:50	10061-01-5	
m&p-Xylene	4.7J	ug/m3	7.7	1.4	1.75		08/30/16 13:50	179601-23-1	
n-Heptane	<0.49	ug/m3	1.5	0.49	1.75		08/30/16 13:50	142-82-5	
n-Hexane	165	ug/m3	1.3	0.62	1.75		08/30/16 13:50	110-54-3	
o-Xylene	0.83J	ug/m3	1.5	0.61	1.75		08/30/16 13:50	95-47-6	
trans-1,2-Dichloroethene	<0.67	ug/m3	1.4	0.67	1.75		08/30/16 13:50	156-60-5	
trans-1,3-Dichloropropene	<0.46	ug/m3	4.0	0.46	1.75		08/30/16 13:50	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: **ELEM-OFFICE1-S-2016-08-27** Lab ID: **10360790003** Collected: 08/28/16 07:19 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/30/16 14:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/30/16 14:45	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/30/16 14:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/30/16 14:45	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/30/16 14:45	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/30/16 14:45	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/30/16 14:45	120-82-1	
1,2,4-Trimethylbenzene	8.8	ug/m3	1.8	0.23	1.83		08/30/16 14:45	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.9	1.4	1.83		08/30/16 14:45	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	2.2	0.94	1.83		08/30/16 14:45	95-50-1	
1,2-Dichloroethane	2.5	ug/m3	0.75	0.38	1.83		08/30/16 14:45	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/30/16 14:45	78-87-5	
1,3,5-Trimethylbenzene	2.8	ug/m3	1.8	0.33	1.83		08/30/16 14:45	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/30/16 14:45	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/30/16 14:45	541-73-1	
1,4-Dichlorobenzene	<0.91	ug/m3	2.2	0.91	1.83		08/30/16 14:45	106-46-7	
2-Butanone (MEK)	2.6J	ug/m3	5.5	0.42	1.83		08/30/16 14:45	78-93-3	
2-Hexanone	5.1J	ug/m3	9.5	0.75	1.83		08/30/16 14:45	591-78-6	
2-Propanol	6.8	ug/m3	4.6	0.44	1.83		08/30/16 14:45	67-63-0	
4-Ethyltoluene	3.5	ug/m3	1.8	0.34	1.83		08/30/16 14:45	622-96-8	
4-Methyl-2-pentanone (MIBK)	4.1J	ug/m3	9.5	0.40	1.83		08/30/16 14:45	108-10-1	
Acetone	29.7	ug/m3	4.4	1.5	1.83		08/30/16 14:45	67-64-1	
Benzene	<0.22	ug/m3	0.59	0.22	1.83		08/30/16 14:45	71-43-2	
Benzyl chloride	<0.30	ug/m3	4.8	0.30	1.83		08/30/16 14:45	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/30/16 14:45	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/30/16 14:45	75-25-2	
Bromomethane	<0.57	ug/m3	1.4	0.57	1.83		08/30/16 14:45	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/30/16 14:45	75-15-0	
Carbon tetrachloride	<0.35	ug/m3	1.2	0.35	1.83		08/30/16 14:45	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/30/16 14:45	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/30/16 14:45	75-00-3	
Chloroform	<0.35	ug/m3	0.91	0.35	1.83		08/30/16 14:45	67-66-3	
Chloromethane	1.1	ug/m3	0.77	0.20	1.83		08/30/16 14:45	74-87-3	
Cyclohexane	4.0	ug/m3	1.3	0.58	1.83		08/30/16 14:45	110-82-7	
Dibromochloromethane	<1.6	ug/m3	3.2	1.6	1.83		08/30/16 14:45	124-48-1	
Dichlorodifluoromethane	2.0	ug/m3	1.8	0.88	1.83		08/30/16 14:45	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/30/16 14:45	76-14-2	
Ethanol	46.6	ug/m3	1.8	0.48	1.83		08/30/16 14:45	64-17-5	
Ethyl acetate	<0.64	ug/m3	1.3	0.64	1.83		08/30/16 14:45	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	4.0	1.2	1.83		08/30/16 14:45	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	6.7	0.55	1.83		08/30/16 14:45	1634-04-4	
Methylene Chloride	2.2J	ug/m3	6.5	0.99	1.83		08/30/16 14:45	75-09-2	
Naphthalene	6.5	ug/m3	4.9	0.56	1.83		08/30/16 14:45	91-20-3	
Propylene	0.60J	ug/m3	0.64	0.25	1.83		08/30/16 14:45	115-07-1	
Styrene	1.0J	ug/m3	1.6	0.35	1.83		08/30/16 14:45	100-42-5	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: ELEM-OFFICE1-S-2016-08-27 **Lab ID:** 10360790003 Collected: 08/28/16 07:19 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Tetrachloroethene	1.1J	ug/m3	1.3	0.51	1.83		08/30/16 14:45	127-18-4	
Tetrahydrofuran	<0.22	ug/m3	1.1	0.22	1.83		08/30/16 14:45	109-99-9	
Toluene	3.4	ug/m3	1.4	0.28	1.83		08/30/16 14:45	108-88-3	
Trichloroethene	<0.51	ug/m3	1.0	0.51	1.83		08/30/16 14:45	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	2.1	0.24	1.83		08/30/16 14:45	75-69-4	
Vinyl acetate	1.0J	ug/m3	1.3	0.60	1.83		08/30/16 14:45	108-05-4	
Vinyl chloride	1.1	ug/m3	0.48	0.36	1.83		08/30/16 14:45	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/30/16 14:45	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/30/16 14:45	10061-01-5	
m&p-Xylene	4.9J	ug/m3	8.1	1.4	1.83		08/30/16 14:45	179601-23-1	
n-Heptane	1.0J	ug/m3	1.5	0.51	1.83		08/30/16 14:45	142-82-5	
n-Hexane	1.5	ug/m3	1.3	0.65	1.83		08/30/16 14:45	110-54-3	
o-Xylene	0.89J	ug/m3	1.6	0.64	1.83		08/30/16 14:45	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/30/16 14:45	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/30/16 14:45	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: HS-OFFICE1-S-2016-08-27 Lab ID: 10360790004 Collected: 08/28/16 07:11 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.50	ug/m3	2.2	0.50	2.01		08/30/16 15:12	71-55-6	
1,1,2,2-Tetrachloroethane	<0.66	ug/m3	2.8	0.66	2.01		08/30/16 15:12	79-34-5	
1,1,2-Trichloroethane	<0.49	ug/m3	1.1	0.49	2.01		08/30/16 15:12	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.61	ug/m3	3.2	0.61	2.01		08/30/16 15:12	76-13-1	
1,1-Dichloroethane	<0.32	ug/m3	1.6	0.32	2.01		08/30/16 15:12	75-34-3	
1,1-Dichloroethene	<0.48	ug/m3	1.6	0.48	2.01		08/30/16 15:12	75-35-4	
1,2,4-Trichlorobenzene	<1.8	ug/m3	7.6	1.8	2.01		08/30/16 15:12	120-82-1	
1,2,4-Trimethylbenzene	4.2	ug/m3	2.0	0.25	2.01		08/30/16 15:12	95-63-6	
1,2-Dibromoethane (EDB)	<1.6	ug/m3	3.1	1.6	2.01		08/30/16 15:12	106-93-4	
1,2-Dichlorobenzene	<1.0	ug/m3	2.5	1.0	2.01		08/30/16 15:12	95-50-1	
1,2-Dichloroethane	<0.41	ug/m3	0.82	0.41	2.01		08/30/16 15:12	107-06-2	
1,2-Dichloropropane	<0.54	ug/m3	1.9	0.54	2.01		08/30/16 15:12	78-87-5	
1,3,5-Trimethylbenzene	1.9J	ug/m3	2.0	0.37	2.01		08/30/16 15:12	108-67-8	
1,3-Butadiene	<0.35	ug/m3	0.90	0.35	2.01		08/30/16 15:12	106-99-0	
1,3-Dichlorobenzene	<1.1	ug/m3	2.5	1.1	2.01		08/30/16 15:12	541-73-1	
1,4-Dichlorobenzene	2.5	ug/m3	2.5	1.0	2.01		08/30/16 15:12	106-46-7	
2-Butanone (MEK)	7.3	ug/m3	6.0	0.46	2.01		08/30/16 15:12	78-93-3	
2-Hexanone	9.6J	ug/m3	10.5	0.82	2.01		08/30/16 15:12	591-78-6	
2-Propanol	20.1	ug/m3	5.0	0.48	2.01		08/30/16 15:12	67-63-0	
4-Ethyltoluene	2.2	ug/m3	2.0	0.38	2.01		08/30/16 15:12	622-96-8	
4-Methyl-2-pentanone (MIBK)	7.9J	ug/m3	10.5	0.44	2.01		08/30/16 15:12	108-10-1	
Acetone	50.8	ug/m3	4.9	1.7	2.01		08/30/16 15:12	67-64-1	
Benzene	0.46J	ug/m3	0.65	0.25	2.01		08/30/16 15:12	71-43-2	
Benzyl chloride	<0.33	ug/m3	5.3	0.33	2.01		08/30/16 15:12	100-44-7	
Bromodichloromethane	<0.39	ug/m3	2.7	0.39	2.01		08/30/16 15:12	75-27-4	
Bromoform	<1.8	ug/m3	4.2	1.8	2.01		08/30/16 15:12	75-25-2	
Bromomethane	<0.62	ug/m3	1.6	0.62	2.01		08/30/16 15:12	74-83-9	
Carbon disulfide	<0.20	ug/m3	1.3	0.20	2.01		08/30/16 15:12	75-15-0	
Carbon tetrachloride	<0.39	ug/m3	1.3	0.39	2.01		08/30/16 15:12	56-23-5	
Chlorobenzene	<0.27	ug/m3	1.9	0.27	2.01		08/30/16 15:12	108-90-7	
Chloroethane	<0.39	ug/m3	1.1	0.39	2.01		08/30/16 15:12	75-00-3	
Chloroform	1.2	ug/m3	1.0	0.38	2.01		08/30/16 15:12	67-66-3	
Chloromethane	1.4	ug/m3	0.84	0.22	2.01		08/30/16 15:12	74-87-3	
Cyclohexane	7.4	ug/m3	1.4	0.64	2.01		08/30/16 15:12	110-82-7	
Dibromochloromethane	<1.7	ug/m3	3.5	1.7	2.01		08/30/16 15:12	124-48-1	
Dichlorodifluoromethane	1.8J	ug/m3	2.0	0.96	2.01		08/30/16 15:12	75-71-8	
Dichlorotetrafluoroethane	<0.62	ug/m3	2.9	0.62	2.01		08/30/16 15:12	76-14-2	
Ethanol	69.8	ug/m3	1.9	0.53	2.01		08/30/16 15:12	64-17-5	
Ethyl acetate	4.5	ug/m3	1.5	0.70	2.01		08/30/16 15:12	141-78-6	
Hexachloro-1,3-butadiene	<1.3	ug/m3	4.4	1.3	2.01		08/30/16 15:12	87-68-3	
Methyl-tert-butyl ether	2.6J	ug/m3	7.4	0.61	2.01		08/30/16 15:12	1634-04-4	
Methylene Chloride	4.5J	ug/m3	7.1	1.1	2.01		08/30/16 15:12	75-09-2	
Naphthalene	10.7	ug/m3	5.3	0.61	2.01		08/30/16 15:12	91-20-3	
Propylene	<0.27	ug/m3	0.70	0.27	2.01		08/30/16 15:12	115-07-1	
Styrene	<0.39	ug/m3	1.7	0.39	2.01		08/30/16 15:12	100-42-5	
Tetrachloroethene	<0.56	ug/m3	1.4	0.56	2.01		08/30/16 15:12	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: HS-OFFICE1-S-2016-08-27 **Lab ID: 10360790004** Collected: 08/28/16 07:11 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	2.4	ug/m3	1.2	0.24	2.01		08/30/16 15:12	109-99-9	
Toluene	5.6	ug/m3	1.5	0.31	2.01		08/30/16 15:12	108-88-3	
Trichloroethene	<0.55	ug/m3	1.1	0.55	2.01		08/30/16 15:12	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	2.3	0.27	2.01		08/30/16 15:12	75-69-4	
Vinyl acetate	2.5	ug/m3	1.4	0.66	2.01		08/30/16 15:12	108-05-4	
Vinyl chloride	<0.39	ug/m3	0.52	0.39	2.01		08/30/16 15:12	75-01-4	
cis-1,2-Dichloroethene	<0.49	ug/m3	1.6	0.49	2.01		08/30/16 15:12	156-59-2	
cis-1,3-Dichloropropene	<0.74	ug/m3	4.6	0.74	2.01		08/30/16 15:12	10061-01-5	
m&p-Xylene	6.0J	ug/m3	8.9	1.6	2.01		08/30/16 15:12	179601-23-1	
n-Heptane	1.9	ug/m3	1.7	0.56	2.01		08/30/16 15:12	142-82-5	
n-Hexane	3.9	ug/m3	1.4	0.72	2.01		08/30/16 15:12	110-54-3	
o-Xylene	1.2J	ug/m3	1.8	0.71	2.01		08/30/16 15:12	95-47-6	
trans-1,2-Dichloroethene	<0.77	ug/m3	1.6	0.77	2.01		08/30/16 15:12	156-60-5	
trans-1,3-Dichloropropene	<0.52	ug/m3	4.6	0.52	2.01		08/30/16 15:12	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: **MS-OA1-S-2016-08-28** Lab ID: **10360790005** Collected: 08/29/16 07:03 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/30/16 15:40	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/30/16 15:40	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/30/16 15:40	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/30/16 15:40	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/30/16 15:40	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/30/16 15:40	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/30/16 15:40	120-82-1	
1,2,4-Trimethylbenzene	1.7J	ug/m3	1.8	0.23	1.83		08/30/16 15:40	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.9	1.4	1.83		08/30/16 15:40	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	2.2	0.94	1.83		08/30/16 15:40	95-50-1	
1,2-Dichloroethane	<0.38	ug/m3	0.75	0.38	1.83		08/30/16 15:40	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/30/16 15:40	78-87-5	
1,3,5-Trimethylbenzene	<0.33	ug/m3	1.8	0.33	1.83		08/30/16 15:40	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/30/16 15:40	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/30/16 15:40	541-73-1	
1,4-Dichlorobenzene	<0.91	ug/m3	2.2	0.91	1.83		08/30/16 15:40	106-46-7	
2-Butanone (MEK)	2.4J	ug/m3	5.5	0.42	1.83		08/30/16 15:40	78-93-3	
2-Hexanone	5.3J	ug/m3	9.5	0.75	1.83		08/30/16 15:40	591-78-6	
2-Propanol	1.2J	ug/m3	4.6	0.44	1.83		08/30/16 15:40	67-63-0	
4-Ethyltoluene	<0.34	ug/m3	1.8	0.34	1.83		08/30/16 15:40	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.40	ug/m3	9.5	0.40	1.83		08/30/16 15:40	108-10-1	
Acetone	12.7	ug/m3	4.4	1.5	1.83		08/30/16 15:40	67-64-1	
Benzene	<0.22	ug/m3	0.59	0.22	1.83		08/30/16 15:40	71-43-2	
Benzyl chloride	<0.30	ug/m3	4.8	0.30	1.83		08/30/16 15:40	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/30/16 15:40	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/30/16 15:40	75-25-2	
Bromomethane	<0.57	ug/m3	1.4	0.57	1.83		08/30/16 15:40	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/30/16 15:40	75-15-0	
Carbon tetrachloride	<0.35	ug/m3	1.2	0.35	1.83		08/30/16 15:40	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/30/16 15:40	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/30/16 15:40	75-00-3	
Chloroform	<0.35	ug/m3	0.91	0.35	1.83		08/30/16 15:40	67-66-3	
Chloromethane	0.91	ug/m3	0.77	0.20	1.83		08/30/16 15:40	74-87-3	
Cyclohexane	<0.58	ug/m3	1.3	0.58	1.83		08/30/16 15:40	110-82-7	
Dibromochloromethane	<1.6	ug/m3	3.2	1.6	1.83		08/30/16 15:40	124-48-1	
Dichlorodifluoromethane	1.8J	ug/m3	1.8	0.88	1.83		08/30/16 15:40	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/30/16 15:40	76-14-2	
Ethanol	7.9	ug/m3	1.8	0.48	1.83		08/30/16 15:40	64-17-5	
Ethyl acetate	<0.64	ug/m3	1.3	0.64	1.83		08/30/16 15:40	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	4.0	1.2	1.83		08/30/16 15:40	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	6.7	0.55	1.83		08/30/16 15:40	1634-04-4	
Methylene Chloride	2.0J	ug/m3	6.5	0.99	1.83		08/30/16 15:40	75-09-2	
Naphthalene	<0.56	ug/m3	4.9	0.56	1.83		08/30/16 15:40	91-20-3	
Propylene	0.40J	ug/m3	0.64	0.25	1.83		08/30/16 15:40	115-07-1	
Styrene	<0.35	ug/m3	1.6	0.35	1.83		08/30/16 15:40	100-42-5	
Tetrachloroethene	<0.51	ug/m3	1.3	0.51	1.83		08/30/16 15:40	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: MS-OA1-S-2016-08-28 **Lab ID: 10360790005** Collected: 08/29/16 07:03 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.22	ug/m3	1.1	0.22	1.83		08/30/16 15:40	109-99-9	
Toluene	0.91J	ug/m3	1.4	0.28	1.83		08/30/16 15:40	108-88-3	
Trichloroethene	<0.51	ug/m3	1.0	0.51	1.83		08/30/16 15:40	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	2.1	0.24	1.83		08/30/16 15:40	75-69-4	
Vinyl acetate	1.1J	ug/m3	1.3	0.60	1.83		08/30/16 15:40	108-05-4	
Vinyl chloride	<0.36	ug/m3	0.48	0.36	1.83		08/30/16 15:40	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/30/16 15:40	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/30/16 15:40	10061-01-5	
m&p-Xylene	4.2J	ug/m3	8.1	1.4	1.83		08/30/16 15:40	179601-23-1	
n-Heptane	<0.51	ug/m3	1.5	0.51	1.83		08/30/16 15:40	142-82-5	
n-Hexane	0.97J	ug/m3	1.3	0.65	1.83		08/30/16 15:40	110-54-3	
o-Xylene	<0.64	ug/m3	1.6	0.64	1.83		08/30/16 15:40	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/30/16 15:40	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/30/16 15:40	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: **MS-OFFICE1-S-2016-08-28** Lab ID: **10360790006** Collected: 08/29/16 07:07 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/30/16 16:07	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/30/16 16:07	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/30/16 16:07	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/30/16 16:07	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/30/16 16:07	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/30/16 16:07	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/30/16 16:07	120-82-1	
1,2,4-Trimethylbenzene	2.1	ug/m3	1.8	0.23	1.83		08/30/16 16:07	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.9	1.4	1.83		08/30/16 16:07	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	2.2	0.94	1.83		08/30/16 16:07	95-50-1	
1,2-Dichloroethane	<0.38	ug/m3	0.75	0.38	1.83		08/30/16 16:07	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/30/16 16:07	78-87-5	
1,3,5-Trimethylbenzene	1.2J	ug/m3	1.8	0.33	1.83		08/30/16 16:07	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/30/16 16:07	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/30/16 16:07	541-73-1	
1,4-Dichlorobenzene	2.3	ug/m3	2.2	0.91	1.83		08/30/16 16:07	106-46-7	
2-Butanone (MEK)	3.0J	ug/m3	5.5	0.42	1.83		08/30/16 16:07	78-93-3	
2-Hexanone	5.0J	ug/m3	9.5	0.75	1.83		08/30/16 16:07	591-78-6	
2-Propanol	6.1	ug/m3	4.6	0.44	1.83		08/30/16 16:07	67-63-0	
4-Ethyltoluene	<0.34	ug/m3	1.8	0.34	1.83		08/30/16 16:07	622-96-8	
4-Methyl-2-pentanone (MIBK)	4.1J	ug/m3	9.5	0.40	1.83		08/30/16 16:07	108-10-1	
Acetone	15.6	ug/m3	4.4	1.5	1.83		08/30/16 16:07	67-64-1	
Benzene	0.63	ug/m3	0.59	0.22	1.83		08/30/16 16:07	71-43-2	
Benzyl chloride	<0.30	ug/m3	4.8	0.30	1.83		08/30/16 16:07	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/30/16 16:07	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/30/16 16:07	75-25-2	
Bromomethane	<0.57	ug/m3	1.4	0.57	1.83		08/30/16 16:07	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/30/16 16:07	75-15-0	
Carbon tetrachloride	<0.35	ug/m3	1.2	0.35	1.83		08/30/16 16:07	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/30/16 16:07	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/30/16 16:07	75-00-3	
Chloroform	<0.35	ug/m3	0.91	0.35	1.83		08/30/16 16:07	67-66-3	
Chloromethane	1.3	ug/m3	0.77	0.20	1.83		08/30/16 16:07	74-87-3	
Cyclohexane	<0.58	ug/m3	1.3	0.58	1.83		08/30/16 16:07	110-82-7	
Dibromochloromethane	<1.6	ug/m3	3.2	1.6	1.83		08/30/16 16:07	124-48-1	
Dichlorodifluoromethane	1.8J	ug/m3	1.8	0.88	1.83		08/30/16 16:07	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/30/16 16:07	76-14-2	
Ethanol	30.5	ug/m3	1.8	0.48	1.83		08/30/16 16:07	64-17-5	
Ethyl acetate	<0.64	ug/m3	1.3	0.64	1.83		08/30/16 16:07	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	4.0	1.2	1.83		08/30/16 16:07	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	6.7	0.55	1.83		08/30/16 16:07	1634-04-4	
Methylene Chloride	3.2J	ug/m3	6.5	0.99	1.83		08/30/16 16:07	75-09-2	
Naphthalene	<0.56	ug/m3	4.9	0.56	1.83		08/30/16 16:07	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/30/16 16:07	115-07-1	
Styrene	<0.35	ug/m3	1.6	0.35	1.83		08/30/16 16:07	100-42-5	
Tetrachloroethene	<0.51	ug/m3	1.3	0.51	1.83		08/30/16 16:07	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: MS-OFFICE1-S-2016-08-28 **Lab ID: 10360790006** Collected: 08/29/16 07:07 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.22	ug/m3	1.1	0.22	1.83		08/30/16 16:07	109-99-9	
Toluene	2.4	ug/m3	1.4	0.28	1.83		08/30/16 16:07	108-88-3	
Trichloroethene	<0.51	ug/m3	1.0	0.51	1.83		08/30/16 16:07	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	2.1	0.24	1.83		08/30/16 16:07	75-69-4	
Vinyl acetate	0.93J	ug/m3	1.3	0.60	1.83		08/30/16 16:07	108-05-4	
Vinyl chloride	<0.36	ug/m3	0.48	0.36	1.83		08/30/16 16:07	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/30/16 16:07	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/30/16 16:07	10061-01-5	
m&p-Xylene	4.8J	ug/m3	8.1	1.4	1.83		08/30/16 16:07	179601-23-1	
n-Heptane	1.5J	ug/m3	1.5	0.51	1.83		08/30/16 16:07	142-82-5	
n-Hexane	1.9	ug/m3	1.3	0.65	1.83		08/30/16 16:07	110-54-3	
o-Xylene	<0.64	ug/m3	1.6	0.64	1.83		08/30/16 16:07	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/30/16 16:07	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/30/16 16:07	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: **ELEM-OFFICE1-S-2016-08-28** Lab ID: **10360790007** Collected: 08/29/16 07:14 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/30/16 16:35	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/30/16 16:35	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/30/16 16:35	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/30/16 16:35	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/30/16 16:35	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/30/16 16:35	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/30/16 16:35	120-82-1	
1,2,4-Trimethylbenzene	2.2	ug/m3	1.8	0.23	1.83		08/30/16 16:35	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.9	1.4	1.83		08/30/16 16:35	106-93-4	
1,2-Dichlorobenzene	<0.94	ug/m3	2.2	0.94	1.83		08/30/16 16:35	95-50-1	
1,2-Dichloroethane	0.89	ug/m3	0.75	0.38	1.83		08/30/16 16:35	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/30/16 16:35	78-87-5	
1,3,5-Trimethylbenzene	1.2J	ug/m3	1.8	0.33	1.83		08/30/16 16:35	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/30/16 16:35	106-99-0	
1,3-Dichlorobenzene	<0.97	ug/m3	2.2	0.97	1.83		08/30/16 16:35	541-73-1	
1,4-Dichlorobenzene	<0.91	ug/m3	2.2	0.91	1.83		08/30/16 16:35	106-46-7	
2-Butanone (MEK)	<0.42	ug/m3	5.5	0.42	1.83		08/30/16 16:35	78-93-3	
2-Hexanone	4.9J	ug/m3	9.5	0.75	1.83		08/30/16 16:35	591-78-6	
2-Propanol	8.9	ug/m3	4.6	0.44	1.83		08/30/16 16:35	67-63-0	
4-Ethyltoluene	<0.34	ug/m3	1.8	0.34	1.83		08/30/16 16:35	622-96-8	
4-Methyl-2-pentanone (MIBK)	4.4J	ug/m3	9.5	0.40	1.83		08/30/16 16:35	108-10-1	
Acetone	370	ug/m3	4.4	1.5	1.83		08/30/16 16:35	67-64-1	
Benzene	0.67	ug/m3	0.59	0.22	1.83		08/30/16 16:35	71-43-2	
Benzyl chloride	<0.30	ug/m3	4.8	0.30	1.83		08/30/16 16:35	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/30/16 16:35	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/30/16 16:35	75-25-2	
Bromomethane	<0.57	ug/m3	1.4	0.57	1.83		08/30/16 16:35	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/30/16 16:35	75-15-0	
Carbon tetrachloride	0.76J	ug/m3	1.2	0.35	1.83		08/30/16 16:35	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/30/16 16:35	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/30/16 16:35	75-00-3	
Chloroform	<0.35	ug/m3	0.91	0.35	1.83		08/30/16 16:35	67-66-3	
Chloromethane	1.5	ug/m3	0.77	0.20	1.83		08/30/16 16:35	74-87-3	
Cyclohexane	2.8	ug/m3	1.3	0.58	1.83		08/30/16 16:35	110-82-7	
Dibromochloromethane	<1.6	ug/m3	3.2	1.6	1.83		08/30/16 16:35	124-48-1	
Dichlorodifluoromethane	2.4	ug/m3	1.8	0.88	1.83		08/30/16 16:35	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/30/16 16:35	76-14-2	
Ethanol	78.6	ug/m3	1.8	0.48	1.83		08/30/16 16:35	64-17-5	
Ethyl acetate	3.2	ug/m3	1.3	0.64	1.83		08/30/16 16:35	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	4.0	1.2	1.83		08/30/16 16:35	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	6.7	0.55	1.83		08/30/16 16:35	1634-04-4	
Methylene Chloride	181	ug/m3	34.6	5.3	9.81		08/31/16 10:51	75-09-2	
Naphthalene	<0.56	ug/m3	4.9	0.56	1.83		08/30/16 16:35	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/30/16 16:35	115-07-1	
Styrene	1.3J	ug/m3	1.6	0.35	1.83		08/30/16 16:35	100-42-5	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: ELEM-OFFICE1-S-2016-08-28 **Lab ID:** 10360790007 Collected: 08/29/16 07:14 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
Tetrachloroethene	<0.51	ug/m3	1.3	0.51	1.83		08/30/16 16:35	127-18-4	
Tetrahydrofuran	10.8	ug/m3	1.1	0.22	1.83		08/30/16 16:35	109-99-9	
Toluene	17.1	ug/m3	1.4	0.28	1.83		08/30/16 16:35	108-88-3	
Trichloroethene	<0.51	ug/m3	1.0	0.51	1.83		08/30/16 16:35	79-01-6	
Trichlorofluoromethane	2.0J	ug/m3	2.1	0.24	1.83		08/30/16 16:35	75-69-4	
Vinyl acetate	<0.60	ug/m3	1.3	0.60	1.83		08/30/16 16:35	108-05-4	
Vinyl chloride	0.68	ug/m3	0.48	0.36	1.83		08/30/16 16:35	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/30/16 16:35	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/30/16 16:35	10061-01-5	
m&p-Xylene	5.7J	ug/m3	8.1	1.4	1.83		08/30/16 16:35	179601-23-1	
n-Heptane	2.1	ug/m3	1.5	0.51	1.83		08/30/16 16:35	142-82-5	
n-Hexane	37.6	ug/m3	7.1	3.5	9.81		08/31/16 10:51	110-54-3	
o-Xylene	1.4J	ug/m3	1.6	0.64	1.83		08/30/16 16:35	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/30/16 16:35	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/30/16 16:35	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: HS-OFFICE1-S-2016-08-28 Lab ID: 10360790008 Collected: 08/29/16 07:23 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.45	ug/m3	2.0	0.45	1.83		08/30/16 17:02	71-55-6	
1,1,2,2-Tetrachloroethane	<0.60	ug/m3	2.6	0.60	1.83		08/30/16 17:02	79-34-5	
1,1,2-Trichloroethane	<0.45	ug/m3	1.0	0.45	1.83		08/30/16 17:02	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.55	ug/m3	2.9	0.55	1.83		08/30/16 17:02	76-13-1	
1,1-Dichloroethane	<0.29	ug/m3	1.5	0.29	1.83		08/30/16 17:02	75-34-3	
1,1-Dichloroethene	<0.44	ug/m3	1.5	0.44	1.83		08/30/16 17:02	75-35-4	
1,2,4-Trichlorobenzene	<1.7	ug/m3	6.9	1.7	1.83		08/30/16 17:02	120-82-1	
1,2,4-Trimethylbenzene	3.8	ug/m3	1.8	0.23	1.83		08/30/16 17:02	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.9	1.4	1.83		08/30/16 17:02	106-93-4	
1,2-Dichlorobenzene	2.3	ug/m3	2.2	0.94	1.83		08/30/16 17:02	95-50-1	
1,2-Dichloroethane	<0.38	ug/m3	0.75	0.38	1.83		08/30/16 17:02	107-06-2	
1,2-Dichloropropane	<0.49	ug/m3	1.7	0.49	1.83		08/30/16 17:02	78-87-5	
1,3,5-Trimethylbenzene	1.8J	ug/m3	1.8	0.33	1.83		08/30/16 17:02	108-67-8	
1,3-Butadiene	<0.32	ug/m3	0.82	0.32	1.83		08/30/16 17:02	106-99-0	
1,3-Dichlorobenzene	2.2J	ug/m3	2.2	0.97	1.83		08/30/16 17:02	541-73-1	
1,4-Dichlorobenzene	2.4	ug/m3	2.2	0.91	1.83		08/30/16 17:02	106-46-7	
2-Butanone (MEK)	5.0J	ug/m3	5.5	0.42	1.83		08/30/16 17:02	78-93-3	
2-Hexanone	5.8J	ug/m3	9.5	0.75	1.83		08/30/16 17:02	591-78-6	
2-Propanol	14.3	ug/m3	4.6	0.44	1.83		08/30/16 17:02	67-63-0	
4-Ethyltoluene	<0.34	ug/m3	1.8	0.34	1.83		08/30/16 17:02	622-96-8	
4-Methyl-2-pentanone (MIBK)	4.5J	ug/m3	9.5	0.40	1.83		08/30/16 17:02	108-10-1	
Acetone	42.0	ug/m3	4.4	1.5	1.83		08/30/16 17:02	67-64-1	
Benzene	0.48J	ug/m3	0.59	0.22	1.83		08/30/16 17:02	71-43-2	
Benzyl chloride	<0.30	ug/m3	4.8	0.30	1.83		08/30/16 17:02	100-44-7	
Bromodichloromethane	<0.36	ug/m3	2.5	0.36	1.83		08/30/16 17:02	75-27-4	
Bromoform	<1.6	ug/m3	3.8	1.6	1.83		08/30/16 17:02	75-25-2	
Bromomethane	<0.57	ug/m3	1.4	0.57	1.83		08/30/16 17:02	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.2	0.18	1.83		08/30/16 17:02	75-15-0	
Carbon tetrachloride	<0.35	ug/m3	1.2	0.35	1.83		08/30/16 17:02	56-23-5	
Chlorobenzene	<0.25	ug/m3	1.7	0.25	1.83		08/30/16 17:02	108-90-7	
Chloroethane	<0.36	ug/m3	0.99	0.36	1.83		08/30/16 17:02	75-00-3	
Chloroform	0.75J	ug/m3	0.91	0.35	1.83		08/30/16 17:02	67-66-3	
Chloromethane	1.4	ug/m3	0.77	0.20	1.83		08/30/16 17:02	74-87-3	
Cyclohexane	7.1	ug/m3	1.3	0.58	1.83		08/30/16 17:02	110-82-7	
Dibromochloromethane	<1.6	ug/m3	3.2	1.6	1.83		08/30/16 17:02	124-48-1	
Dichlorodifluoromethane	1.9	ug/m3	1.8	0.88	1.83		08/30/16 17:02	75-71-8	
Dichlorotetrafluoroethane	<0.57	ug/m3	2.6	0.57	1.83		08/30/16 17:02	76-14-2	
Ethanol	37.3	ug/m3	1.8	0.48	1.83		08/30/16 17:02	64-17-5	
Ethyl acetate	4.0	ug/m3	1.3	0.64	1.83		08/30/16 17:02	141-78-6	
Hexachloro-1,3-butadiene	<1.2	ug/m3	4.0	1.2	1.83		08/30/16 17:02	87-68-3	
Methyl-tert-butyl ether	<0.55	ug/m3	6.7	0.55	1.83		08/30/16 17:02	1634-04-4	
Methylene Chloride	3.9J	ug/m3	6.5	0.99	1.83		08/30/16 17:02	75-09-2	
Naphthalene	5.9	ug/m3	4.9	0.56	1.83		08/30/16 17:02	91-20-3	
Propylene	<0.25	ug/m3	0.64	0.25	1.83		08/30/16 17:02	115-07-1	
Styrene	1.7	ug/m3	1.6	0.35	1.83		08/30/16 17:02	100-42-5	
Tetrachloroethene	1.2J	ug/m3	1.3	0.51	1.83		08/30/16 17:02	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Sample: HS-OFFICE1-S-2016-08-28 **Lab ID: 10360790008** Collected: 08/29/16 07:23 Received: 08/30/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.3	ug/m3	1.1	0.22	1.83		08/30/16 17:02	109-99-9	
Toluene	7.5	ug/m3	1.4	0.28	1.83		08/30/16 17:02	108-88-3	
Trichloroethene	<0.51	ug/m3	1.0	0.51	1.83		08/30/16 17:02	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	2.1	0.24	1.83		08/30/16 17:02	75-69-4	
Vinyl acetate	2.0	ug/m3	1.3	0.60	1.83		08/30/16 17:02	108-05-4	
Vinyl chloride	<0.36	ug/m3	0.48	0.36	1.83		08/30/16 17:02	75-01-4	
cis-1,2-Dichloroethene	<0.45	ug/m3	1.5	0.45	1.83		08/30/16 17:02	156-59-2	
cis-1,3-Dichloropropene	<0.68	ug/m3	4.2	0.68	1.83		08/30/16 17:02	10061-01-5	
m&p-Xylene	5.6J	ug/m3	8.1	1.4	1.83		08/30/16 17:02	179601-23-1	
n-Heptane	2.2	ug/m3	1.5	0.51	1.83		08/30/16 17:02	142-82-5	
n-Hexane	1.5	ug/m3	1.3	0.65	1.83		08/30/16 17:02	110-54-3	
o-Xylene	1.3J	ug/m3	1.6	0.64	1.83		08/30/16 17:02	95-47-6	
trans-1,2-Dichloroethene	<0.70	ug/m3	1.5	0.70	1.83		08/30/16 17:02	156-60-5	
trans-1,3-Dichloropropene	<0.48	ug/m3	4.2	0.48	1.83		08/30/16 17:02	10061-02-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

QC Batch: 433240 Analysis Method: TO-15
 QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
 Associated Lab Samples: 10360790001, 10360790002, 10360790003, 10360790004, 10360790005, 10360790006, 10360790007, 10360790008

METHOD BLANK: 2356324 Matrix: Air
 Associated Lab Samples: 10360790001, 10360790002, 10360790003, 10360790004, 10360790005, 10360790006, 10360790007, 10360790008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.25	1.1	0.25	08/30/16 11:36	
1,1,2,2-Tetrachloroethane	ug/m3	<0.33	1.4	0.33	08/30/16 11:36	
1,1,2-Trichloroethane	ug/m3	<0.25	0.55	0.25	08/30/16 11:36	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.30	1.6	0.30	08/30/16 11:36	
1,1-Dichloroethane	ug/m3	<0.16	0.82	0.16	08/30/16 11:36	
1,1-Dichloroethene	ug/m3	<0.24	0.81	0.24	08/30/16 11:36	
1,2,4-Trichlorobenzene	ug/m3	<0.91	3.8	0.91	08/30/16 11:36	
1,2,4-Trimethylbenzene	ug/m3	<0.12	1.0	0.12	08/30/16 11:36	
1,2-Dibromoethane (EDB)	ug/m3	<0.77	1.6	0.77	08/30/16 11:36	
1,2-Dichlorobenzene	ug/m3	<0.51	1.2	0.51	08/30/16 11:36	
1,2-Dichloroethane	ug/m3	<0.20	0.41	0.20	08/30/16 11:36	
1,2-Dichloropropane	ug/m3	<0.27	0.94	0.27	08/30/16 11:36	
1,3,5-Trimethylbenzene	ug/m3	<0.18	1.0	0.18	08/30/16 11:36	
1,3-Butadiene	ug/m3	<0.18	0.45	0.18	08/30/16 11:36	
1,3-Dichlorobenzene	ug/m3	<0.53	1.2	0.53	08/30/16 11:36	
1,4-Dichlorobenzene	ug/m3	<0.50	1.2	0.50	08/30/16 11:36	
2-Butanone (MEK)	ug/m3	<0.23	3.0	0.23	08/30/16 11:36	
2-Hexanone	ug/m3	<0.41	5.2	0.41	08/30/16 11:36	
2-Propanol	ug/m3	<0.24	2.5	0.24	08/30/16 11:36	
4-Ethyltoluene	ug/m3	<0.19	1.0	0.19	08/30/16 11:36	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.22	5.2	0.22	08/30/16 11:36	
Acetone	ug/m3	<0.83	2.4	0.83	08/30/16 11:36	
Benzene	ug/m3	<0.12	0.32	0.12	08/30/16 11:36	
Benzyl chloride	ug/m3	<0.17	2.6	0.17	08/30/16 11:36	
Bromodichloromethane	ug/m3	<0.19	1.4	0.19	08/30/16 11:36	
Bromoform	ug/m3	<0.90	2.1	0.90	08/30/16 11:36	
Bromomethane	ug/m3	<0.31	0.79	0.31	08/30/16 11:36	
Carbon disulfide	ug/m3	<0.10	0.63	0.10	08/30/16 11:36	
Carbon tetrachloride	ug/m3	<0.19	0.64	0.19	08/30/16 11:36	
Chlorobenzene	ug/m3	<0.13	0.94	0.13	08/30/16 11:36	
Chloroethane	ug/m3	<0.19	0.54	0.19	08/30/16 11:36	
Chloroform	ug/m3	<0.19	0.50	0.19	08/30/16 11:36	
Chloromethane	ug/m3	<0.11	0.42	0.11	08/30/16 11:36	
cis-1,2-Dichloroethene	ug/m3	<0.25	0.81	0.25	08/30/16 11:36	
cis-1,3-Dichloropropene	ug/m3	<0.37	2.3	0.37	08/30/16 11:36	
Cyclohexane	ug/m3	<0.32	0.70	0.32	08/30/16 11:36	
Dibromochloromethane	ug/m3	<0.86	1.7	0.86	08/30/16 11:36	
Dichlorodifluoromethane	ug/m3	<0.48	1.0	0.48	08/30/16 11:36	
Dichlorotetrafluoroethane	ug/m3	<0.31	1.4	0.31	08/30/16 11:36	
Ethanol	ug/m3	<0.26	0.96	0.26	08/30/16 11:36	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10360790

METHOD BLANK: 2356324

Matrix: Air

Associated Lab Samples: 10360790001, 10360790002, 10360790003, 10360790004, 10360790005, 10360790006, 10360790007, 10360790008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.35	0.73	0.35	08/30/16 11:36	
Hexachloro-1,3-butadiene	ug/m3	<0.65	2.2	0.65	08/30/16 11:36	
m&p-Xylene	ug/m3	<0.79	4.4	0.79	08/30/16 11:36	
Methyl-tert-butyl ether	ug/m3	<0.30	3.7	0.30	08/30/16 11:36	
Methylene Chloride	ug/m3	1.1J	3.5	0.54	08/30/16 11:36	
n-Heptane	ug/m3	<0.28	0.83	0.28	08/30/16 11:36	
n-Hexane	ug/m3	<0.36	0.72	0.36	08/30/16 11:36	
Naphthalene	ug/m3	2.6J	2.7	0.30	08/30/16 11:36	
o-Xylene	ug/m3	<0.35	0.88	0.35	08/30/16 11:36	
Propylene	ug/m3	<0.14	0.35	0.14	08/30/16 11:36	
Styrene	ug/m3	<0.19	0.87	0.19	08/30/16 11:36	
Tetrachloroethene	ug/m3	<0.28	0.69	0.28	08/30/16 11:36	
Tetrahydrofuran	ug/m3	<0.12	0.60	0.12	08/30/16 11:36	
Toluene	ug/m3	<0.15	0.77	0.15	08/30/16 11:36	
trans-1,2-Dichloroethene	ug/m3	<0.38	0.81	0.38	08/30/16 11:36	
trans-1,3-Dichloropropene	ug/m3	<0.26	2.3	0.26	08/30/16 11:36	
Trichloroethene	ug/m3	<0.28	0.55	0.28	08/30/16 11:36	
Trichlorofluoromethane	ug/m3	<0.13	1.1	0.13	08/30/16 11:36	
Vinyl acetate	ug/m3	<0.33	0.72	0.33	08/30/16 11:36	
Vinyl chloride	ug/m3	<0.20	0.26	0.20	08/30/16 11:36	

LABORATORY CONTROL SAMPLE: 2356325

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	57.7	57.0	99	60-143	
1,1,2,2-Tetrachloroethane	ug/m3	74	76.0	103	49-150	
1,1,2-Trichloroethane	ug/m3	58.8	72.8	124	57-149	
1,1,2-Trichlorotrifluoroethane	ug/m3	81.8	89.3	109	66-131	
1,1-Dichloroethane	ug/m3	43.2	52.5	121	62-139	
1,1-Dichloroethene	ug/m3	42.3	47.6	113	62-135	
1,2,4-Trichlorobenzene	ug/m3	73.9	67.3	91	55-146	
1,2,4-Trimethylbenzene	ug/m3	51.5	52.1	101	57-143	
1,2-Dibromoethane (EDB)	ug/m3	82.8	81.5	98	63-150	
1,2-Dichlorobenzene	ug/m3	62.9	62.8	100	57-141	
1,2-Dichloroethane	ug/m3	43.6	44.0	101	61-144	
1,2-Dichloropropane	ug/m3	50.2	63.4	126	63-144	
1,3,5-Trimethylbenzene	ug/m3	51.5	53.4	104	54-147	
1,3-Butadiene	ug/m3	23.2	27.0	117	61-140	
1,3-Dichlorobenzene	ug/m3	63.6	63.3	100	51-150	
1,4-Dichlorobenzene	ug/m3	61.7	62.8	102	57-143	
2-Butanone (MEK)	ug/m3	32.1	32.2	100	66-144	
2-Hexanone	ug/m3	45	42.9	95	63-147	
2-Propanol	ug/m3	25.7	34.5	134	54-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

LABORATORY CONTROL SAMPLE: 2356325

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	49.5	50.9	103	56-150	
4-Methyl-2-pentanone (MIBK)	ug/m3	43.7	46.4	106	58-150	
Acetone	ug/m3	24.9	31.0	125	46-140	
Benzene	ug/m3	34.4	41.0	119	62-141	
Benzyl chloride	ug/m3	54.7	47.9	87	66-138	
Bromodichloromethane	ug/m3	71.5	87.7	123	58-149	
Bromoform	ug/m3	113	106	93	61-150	
Bromomethane	ug/m3	38.3	43.1	113	58-136	
Carbon disulfide	ug/m3	33.2	42.9	129	59-135	
Carbon tetrachloride	ug/m3	67.1	74.5	111	60-149	
Chlorobenzene	ug/m3	50.1	48.4	97	60-150	
Chloroethane	ug/m3	26	34.0	131	61-136	
Chloroform	ug/m3	51.6	61.5	119	65-138	
Chloromethane	ug/m3	21	23.5	112	62-133	
cis-1,2-Dichloroethene	ug/m3	43.5	52.8	121	65-139	
cis-1,3-Dichloropropene	ug/m3	51.7	47.4	92	61-149	
Cyclohexane	ug/m3	36.7	45.8	125	64-134	
Dibromochloromethane	ug/m3	97	111	114	59-150	
Dichlorodifluoromethane	ug/m3	50.3	53.1	106	63-134	
Dichlorotetrafluoroethane	ug/m3	69.6	76.6	110	62-134	
Ethanol	ug/m3	20.3	24.9	123	50-144	
Ethyl acetate	ug/m3	38.1	52.7	138	55-146	
Hexachloro-1,3-butadiene	ug/m3	108	119	110	42-150	
m&p-Xylene	ug/m3	47.7	44.3	93	59-146	
Methyl-tert-butyl ether	ug/m3	38.5	46.4	120	64-135	
Methylene Chloride	ug/m3	38.8	39.7	102	64-128	
n-Heptane	ug/m3	44.2	56.1	127	64-140	
n-Hexane	ug/m3	37.6	42.2	112	50-138	
Naphthalene	ug/m3	55.9	57.4	103	46-146	
o-Xylene	ug/m3	46.8	47.2	101	54-149	
Propylene	ug/m3	18.9	19.5	103	58-135	
Styrene	ug/m3	45.5	46.3	102	54-150	
Tetrachloroethene	ug/m3	72.4	86.7	120	60-142	
Tetrahydrofuran	ug/m3	32.7	38.0	116	56-143	
Toluene	ug/m3	41	50.0	122	61-138	
trans-1,2-Dichloroethene	ug/m3	41.1	53.7	131	67-137	
trans-1,3-Dichloropropene	ug/m3	51.7	46.1	89	59-145	
Trichloroethene	ug/m3	57.4	68.7	120	60-144	
Trichlorofluoromethane	ug/m3	58.2	61.2	105	59-134	
Vinyl acetate	ug/m3	39.7	51.2	129	55-143	
Vinyl chloride	ug/m3	26.5	31.1	117	63-135	

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

SAMPLE DUPLICATE: 2356984

Parameter	Units	10360790001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.43	<0.43		25	
1,1,2,2-Tetrachloroethane	ug/m3	2.6	<0.58		25	
1,1,2-Trichloroethane	ug/m3	<0.43	<0.43		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.53	<0.53		25	
1,1-Dichloroethane	ug/m3	<0.27	<0.27		25	
1,1-Dichloroethene	ug/m3	<0.42	<0.42		25	
1,2,4-Trichlorobenzene	ug/m3	<1.6	<1.6		25	
1,2,4-Trimethylbenzene	ug/m3	8.6	8.8	2	25	
1,2-Dibromoethane (EDB)	ug/m3	<1.4	<1.4		25	
1,2-Dichlorobenzene	ug/m3	<0.90	2.1J		25	
1,2-Dichloroethane	ug/m3	<0.36	<0.36		25	
1,2-Dichloropropane	ug/m3	<0.47	<0.47		25	
1,3,5-Trimethylbenzene	ug/m3	4.5	4.7	5	25	
1,3-Butadiene	ug/m3	<0.31	<0.31		25	
1,3-Dichlorobenzene	ug/m3	<0.93	<0.93		25	
1,4-Dichlorobenzene	ug/m3	2.7	2.7	0	25	
2-Butanone (MEK)	ug/m3	8.3	8.8	6	25	
2-Hexanone	ug/m3	7.6J	7.6J		25	
2-Propanol	ug/m3	6.5	7.0	8	25	
4-Ethyltoluene	ug/m3	3.9	4.1	6	25	
4-Methyl-2-pentanone (MIBK)	ug/m3	6.0J	5.8J		25	
Acetone	ug/m3	26.0	27.4	5	25	
Benzene	ug/m3	0.77	0.78	1	25	
Benzyl chloride	ug/m3	<0.29	<0.29		25	
Bromodichloromethane	ug/m3	<0.34	<0.34		25	
Bromoform	ug/m3	<1.6	<1.6		25	
Bromomethane	ug/m3	<0.54	<0.54		25	
Carbon disulfide	ug/m3	<0.18	<0.18		25	
Carbon tetrachloride	ug/m3	<0.34	<0.34		25	
Chlorobenzene	ug/m3	<0.23	<0.23		25	
Chloroethane	ug/m3	<0.34	<0.34		25	
Chloroform	ug/m3	<0.33	<0.33		25	
Chloromethane	ug/m3	1.2	1.2	1	25	
cis-1,2-Dichloroethene	ug/m3	<0.43	<0.43		25	
cis-1,3-Dichloropropene	ug/m3	<0.65	<0.65		25	
Cyclohexane	ug/m3	2.1	2.2	3	25	
Dibromochloromethane	ug/m3	<1.5	<1.5		25	
Dichlorodifluoromethane	ug/m3	1.9	1.6J		25	
Dichlorotetrafluoroethane	ug/m3	<0.54	<0.54		25	
Ethanol	ug/m3	27.7	31.4	13	25	
Ethyl acetate	ug/m3	2.9	3.0	4	25	
Hexachloro-1,3-butadiene	ug/m3	<1.1	<1.1		25	
m&p-Xylene	ug/m3	14.5	15.0	4	25	
Methyl-tert-butyl ether	ug/m3	<0.53	<0.53		25	
Methylene Chloride	ug/m3	2.2J	2.0J		25	
n-Heptane	ug/m3	3.1	3.3	5	25	
n-Hexane	ug/m3	3.5	3.6	4	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

SAMPLE DUPLICATE: 2356984

Parameter	Units	10360790001 Result	Dup Result	RPD	Max RPD	Qualifiers
Naphthalene	ug/m3	6.6	6.2	6	25	
o-Xylene	ug/m3	3.9	3.9	0	25	
Propylene	ug/m3	0.92	0.83	9	25	
Styrene	ug/m3	1.1J	1.1J		25	
Tetrachloroethene	ug/m3	0.72J	<0.49		25	
Tetrahydrofuran	ug/m3	<0.21	<0.21		25	
Toluene	ug/m3	3.3	3.3	0	25	
trans-1,2-Dichloroethene	ug/m3	<0.67	<0.67		25	
trans-1,3-Dichloropropene	ug/m3	<0.46	<0.46		25	
Trichloroethene	ug/m3	<0.48	<0.48		25	
Trichlorofluoromethane	ug/m3	1.2J	1.3J		25	
Vinyl acetate	ug/m3	1.5	1.5	0	25	
Vinyl chloride	ug/m3	<0.34	<0.34		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10360790

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360790001	MS-OFFICE1-S-2016-08-27	TO-15	433240		
10360790002	MS-OA1-S-2016-08-27	TO-15	433240		
10360790003	ELEM-OFFICE1-S-2016-08-27	TO-15	433240		
10360790004	HS-OFFICE1-S-2016-08-27	TO-15	433240		
10360790005	MS-OA1-S-2016-08-28	TO-15	433240		
10360790006	MS-OFFICE1-S-2016-08-28	TO-15	433240		
10360790007	ELEM-OFFICE1-S-2016-08-28	TO-15	433240		
10360790008	HS-OFFICE1-S-2016-08-28	TO-15	433240		

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10360790

Section A Required Client Information: Company: <u>UPRR-Gary Honeyman</u> Address: <u>221 Hodgeman</u> <u>Laramie WY</u> Email To: Phone: Fax: Requested Due Date/TAT: <u>24-hr</u>	Section B Required Project Information: Report To: <u>CH2M HILL</u> Copy To: <u>Steve Demus</u> <u>Mike Niemet</u> Purchase Order No.: Project Name: <u>Freeman WA-</u> <u>Cenex Harvest Lease Site</u> Project Number:	Section C Invoice Information: Attention: <u>Gary Honeyman</u> Company Name: <u>UPRR</u> Address: Pace Quote Reference: Pace Project Manager/Sales Rep. <u>Jennifer Gross</u> Pace Profile #:	Page: <u>1</u> of <u>1</u> Program <input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other Location of Sampling by State _____ Reporting Units ug/m ³ <input checked="" type="checkbox"/> mg/m ³ _____ PPBV _____ PPMV _____ Other _____ Report Level I. _____ II. _____ III. _____ IV. _____ Other _____
---	--	---	--

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE MEDIA TB 1 Liter Summa Can ILC 6 Liter Summa Can BLC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field Weigh) in Hg -28.01	Canister Pressure (Final Field Weigh) in Hg -5.50	Summa Can Number 1652	Flow Control Number 24RRFC0350	Method:								Pace Lab ID	
					COMPOSITE START END/GRAB		COMPOSITE -						PM10	3C-Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-14 (PCBS)	TO-15 (PAH)	TO-16	TO-16 SIM		TO-16 Short List
					DATE	TIME	DATE	TIME														
1	MS-OFFICE1-S-2016-08-27	6LC	8-27-16	0947	8-28-16	0728	-27	-5.5	024RRFC0350										X	001	009	
2	MS-OA1-S-2016-08-27	6LC	8-27-16	0943	8-28-16	0726	-27	-5	024RRFC0211										X	002	010	
3	ELEM-OFFICE1-S-2016-08-27	6LC	8-27-16	0940	8-28-16	0719	-28.02	-5.45	0122FC0295										X	003	011	
4	HS-OFFICE1-S-2016-08-27	6LC	8-27-16	0935	8-28-16	0711	-28.05	-7.51	1624FC1010										X	004	012	
5	MS-OA1-S-2016-08-28	6LC	8-28-16	0944	8-29-16	0703	-26.5	-5	2348FC0524										X	005	013	
6	MS-OFFICE1-S-2016-08-28	6LC	8-28-16	0946	8-29-16	0707	-26.5	-6.5	1708FC1046										X	006	014	
7	ELEM-OFFICE1-S-2016-08-28	6LC	8-28-16	0951	8-29-16	0714	-26	-5	2060FC1029										X	007	015	
8	HS-OFFICE1-S-2016-08-28	6LC	8-28-16	1000	8-29-16	0723	-25	-5	2149FC1043										X	008	016	

Comments: - Full Voc list - 24-hr TAT	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
	Becky Rewey / CH2M	8-28-16	0830	[Signature]	8-30-16	1000	AMB	☉	☉

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):				
Becky Rewey / CH2M [Signature]	08/28/16				


ORIGINAL

Page 34 of 35

Air Sample Condition Upon Receipt

Client Name: CH2M-CO Project #: _____

WO#: 10360790



10360790

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other: _____

Tracking Number: 783942615863, 783942640772

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____ Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): 7 Corrected Temp (°C): 0 Thermom. Used: B88A912167504 151401163
 B88A0143310098 151401164

Temp should be above freezing to 6°C Correction Factor: 0 Date & Initials of Person Examining Contents: R 83016

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	7. <u>24 hour</u>
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive				11.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	12.

Samples Received: COL says they want SIM but SIM cans not provided

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS Date: 08/30/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

September 01, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

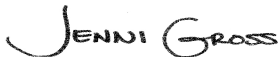
RE: Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10361033

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on August 31, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman Ind. Cert Summa Cans
Pace Project No.: 10361033

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10360434007	PACE0005- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434008	PACE0410- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434009	PACE0630- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434010	PACE0634- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434011	PACE0933- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434012	PACE1533- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434013	PACE1561- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434014	PACE1562- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434015	PACE1736- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434016	PACE2294- Can Cert	Air	08/31/16 00:00	08/31/16 14:59
10360434017	PACE2798- Can Cert	Air	08/31/16 00:00	08/31/16 14:59

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SAMPLE ANALYTE COUNT

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10360434007	PACE0005- Can Cert	TO-15	MJL	61	PASI-M
10360434008	PACE0410- Can Cert	TO-15	MJL	61	PASI-M
10360434009	PACE0630- Can Cert	TO-15	DR1	61	PASI-M
10360434010	PACE0634- Can Cert	TO-15	MJL	61	PASI-M
10360434011	PACE0933- Can Cert	TO-15	MJL	61	PASI-M
10360434012	PACE1533- Can Cert	TO-15	NCK	61	PASI-M
10360434013	PACE1561- Can Cert	TO-15	MJL	61	PASI-M
10360434014	PACE1562- Can Cert	TO-15	MJL	61	PASI-M
10360434015	PACE1736- Can Cert	TO-15	NCK	61	PASI-M
10360434016	PACE2294- Can Cert	TO-15	MJL	61	PASI-M
10360434017	PACE2798- Can Cert	TO-15	MJL	61	PASI-M

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SUMMARY OF DETECTION

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10360434007	PACE0005- Can Cert					
TO-15	Styrene	0.46J	ug/m3	0.87	08/27/16 09:25	
10360434008	PACE0410- Can Cert					
TO-15	Naphthalene	2.0J	ug/m3	2.7	08/29/16 10:04	
TO-15	1,2,4-Trichlorobenzene	3.2J	ug/m3	3.8	08/29/16 10:04	
10360434009	PACE0630- Can Cert					
TO-15	Ethanol	0.86J	ug/m3	0.96	08/26/16 11:25	
TO-15	2-Propanol	0.39J	ug/m3	2.5	08/26/16 11:25	
10360434010	PACE0634- Can Cert					
TO-15	Methylene Chloride	1.1J	ug/m3	3.5	08/24/16 13:33	
10360434016	PACE2294- Can Cert					
TO-15	Naphthalene	2.0J	ug/m3	2.7	08/28/16 09:31	
TO-15	1,2,4-Trichlorobenzene	3.1J	ug/m3	3.8	08/28/16 09:31	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Method: TO-15

Description: Individual Can Certification

Client: UPRR_CH2M Hill

Date: September 01, 2016

General Information:

11 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE0005- Can Cert** Lab ID: **10360434007** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/27/16 09:25	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/27/16 09:25	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/27/16 09:25	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/27/16 09:25	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		08/27/16 09:25	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/27/16 09:25	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/27/16 09:25	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/27/16 09:25	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/27/16 09:25	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/27/16 09:25	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/27/16 09:25	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/27/16 09:25	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/27/16 09:25	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/27/16 09:25	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/27/16 09:25	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/27/16 09:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/27/16 09:25	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	3.1	0.51	1		08/27/16 09:25	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/27/16 09:25	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/27/16 09:25	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/27/16 09:25	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/27/16 09:25	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/27/16 09:25	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/27/16 09:25	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	2.0	0.25	1		08/27/16 09:25	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/27/16 09:25	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/27/16 09:25	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/27/16 09:25	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/27/16 09:25	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/27/16 09:25	76-14-2	
Ethanol	<0.26	ug/m3	1.9	0.26	1		08/27/16 09:25	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/27/16 09:25	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/27/16 09:25	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/27/16 09:25	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/27/16 09:25	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/27/16 09:25	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/27/16 09:25	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/27/16 09:25	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/27/16 09:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/27/16 09:25	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/27/16 09:25	1634-04-4	
Naphthalene	<0.30	ug/m3	5.3	0.30	1		08/27/16 09:25	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/27/16 09:25	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/27/16 09:25	115-07-1	
Styrene	0.46J	ug/m3	0.87	0.19	1		08/27/16 09:25	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	1.4	0.33	1		08/27/16 09:25	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE0005- Can Cert **Lab ID: 10360434007** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/27/16 09:25	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/27/16 09:25	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/27/16 09:25	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/27/16 09:25	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/27/16 09:25	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/27/16 09:25	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/27/16 09:25	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/27/16 09:25	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/27/16 09:25	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/27/16 09:25	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/27/16 09:25	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/27/16 09:25	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.52	0.20	1		08/27/16 09:25	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/27/16 09:25	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/27/16 09:25	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE0410- Can Cert** Lab ID: **10360434008** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/29/16 10:04	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/29/16 10:04	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/29/16 10:04	100-44-7	
Bromodichloromethane	<0.19	ug/m3	3.4	0.19	1		08/29/16 10:04	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/29/16 10:04	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/29/16 10:04	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/29/16 10:04	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/29/16 10:04	78-93-3	
Carbon disulfide	<0.10	ug/m3	1.6	0.10	1		08/29/16 10:04	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/29/16 10:04	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/29/16 10:04	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/29/16 10:04	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/29/16 10:04	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/29/16 10:04	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/29/16 10:04	110-82-7	
Dibromochloromethane	<0.86	ug/m3	4.3	0.86	1		08/29/16 10:04	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/29/16 10:04	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	3.1	0.51	1		08/29/16 10:04	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	3.1	0.53	1		08/29/16 10:04	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/29/16 10:04	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/29/16 10:04	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/29/16 10:04	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/29/16 10:04	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/29/16 10:04	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/29/16 10:04	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/29/16 10:04	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/29/16 10:04	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	2.3	0.37	1		08/29/16 10:04	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	2.3	0.26	1		08/29/16 10:04	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/29/16 10:04	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/29/16 10:04	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/29/16 10:04	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/29/16 10:04	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/29/16 10:04	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/29/16 10:04	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/29/16 10:04	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/29/16 10:04	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/29/16 10:04	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/29/16 10:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/29/16 10:04	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/29/16 10:04	1634-04-4	
Naphthalene	2.0J	ug/m3	2.7	0.30	1		08/29/16 10:04	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/29/16 10:04	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/29/16 10:04	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/29/16 10:04	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	1.4	0.33	1		08/29/16 10:04	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE0410- Can Cert **Lab ID: 10360434008** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/29/16 10:04	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/29/16 10:04	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/29/16 10:04	108-88-3	
1,2,4-Trichlorobenzene	3.2J	ug/m3	3.8	0.91	1		08/29/16 10:04	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/29/16 10:04	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/29/16 10:04	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/29/16 10:04	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/29/16 10:04	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/29/16 10:04	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/29/16 10:04	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/29/16 10:04	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/29/16 10:04	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/29/16 10:04	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/29/16 10:04	179601-23-1	
o-Xylene	<0.35	ug/m3	2.2	0.35	1		08/29/16 10:04	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE0630- Can Cert** Lab ID: **10360434009** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/26/16 11:25	67-64-1	
Benzene	<0.12	ug/m3	0.65	0.12	1		08/26/16 11:25	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/26/16 11:25	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/26/16 11:25	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/26/16 11:25	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/26/16 11:25	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/26/16 11:25	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/26/16 11:25	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/26/16 11:25	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/26/16 11:25	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/26/16 11:25	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/26/16 11:25	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/26/16 11:25	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/26/16 11:25	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/26/16 11:25	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/26/16 11:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/26/16 11:25	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	3.1	0.51	1		08/26/16 11:25	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	3.1	0.53	1		08/26/16 11:25	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/26/16 11:25	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/26/16 11:25	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/26/16 11:25	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	2.1	0.20	1		08/26/16 11:25	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/26/16 11:25	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/26/16 11:25	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/26/16 11:25	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/26/16 11:25	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	2.3	0.37	1		08/26/16 11:25	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	2.3	0.26	1		08/26/16 11:25	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/26/16 11:25	76-14-2	
Ethanol	0.86J	ug/m3	0.96	0.26	1		08/26/16 11:25	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/26/16 11:25	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/26/16 11:25	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	2.5	0.19	1		08/26/16 11:25	622-96-8	
n-Heptane	<0.28	ug/m3	2.1	0.28	1		08/26/16 11:25	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/26/16 11:25	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/26/16 11:25	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/26/16 11:25	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/26/16 11:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	5.2	0.22	1		08/26/16 11:25	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/26/16 11:25	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/26/16 11:25	91-20-3	
2-Propanol	0.39J	ug/m3	2.5	0.24	1		08/26/16 11:25	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/26/16 11:25	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/26/16 11:25	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	3.5	0.33	1		08/26/16 11:25	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE0630- Can Cert **Lab ID: 10360434009** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/26/16 11:25	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/26/16 11:25	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/26/16 11:25	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/26/16 11:25	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	2.8	0.25	1		08/26/16 11:25	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/26/16 11:25	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/26/16 11:25	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/26/16 11:25	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/26/16 11:25	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/26/16 11:25	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/26/16 11:25	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/26/16 11:25	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/26/16 11:25	75-01-4	
m&p-Xylene	<0.79	ug/m3	4.4	0.79	1		08/26/16 11:25	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/26/16 11:25	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: PACE0634- Can Cert **Lab ID: 10360434010** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/24/16 13:33	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/24/16 13:33	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/24/16 13:33	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/24/16 13:33	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/24/16 13:33	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/24/16 13:33	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/24/16 13:33	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/24/16 13:33	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/24/16 13:33	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/24/16 13:33	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/24/16 13:33	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/24/16 13:33	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/24/16 13:33	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/24/16 13:33	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/24/16 13:33	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/24/16 13:33	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/24/16 13:33	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/24/16 13:33	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/24/16 13:33	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/24/16 13:33	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/24/16 13:33	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/24/16 13:33	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/24/16 13:33	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/24/16 13:33	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/24/16 13:33	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/24/16 13:33	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/24/16 13:33	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/24/16 13:33	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/24/16 13:33	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/24/16 13:33	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/24/16 13:33	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/24/16 13:33	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/24/16 13:33	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/24/16 13:33	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/24/16 13:33	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/24/16 13:33	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/24/16 13:33	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/24/16 13:33	591-78-6	
Methylene Chloride	1.1J	ug/m3	3.5	0.54	1		08/24/16 13:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/24/16 13:33	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/24/16 13:33	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/24/16 13:33	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/24/16 13:33	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/24/16 13:33	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/24/16 13:33	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/24/16 13:33	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE0634- Can Cert **Lab ID: 10360434010** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/24/16 13:33	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/24/16 13:33	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/24/16 13:33	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/24/16 13:33	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/24/16 13:33	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/24/16 13:33	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/24/16 13:33	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/24/16 13:33	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/24/16 13:33	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/24/16 13:33	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/24/16 13:33	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/24/16 13:33	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/24/16 13:33	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/24/16 13:33	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/24/16 13:33	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: PACE0933- Can Cert **Lab ID: 10360434011** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/24/16 11:13	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/24/16 11:13	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/24/16 11:13	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/24/16 11:13	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/24/16 11:13	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/24/16 11:13	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/24/16 11:13	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/24/16 11:13	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/24/16 11:13	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/24/16 11:13	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/24/16 11:13	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/24/16 11:13	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/24/16 11:13	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/24/16 11:13	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/24/16 11:13	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/24/16 11:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/24/16 11:13	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/24/16 11:13	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/24/16 11:13	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/24/16 11:13	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/24/16 11:13	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/24/16 11:13	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/24/16 11:13	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/24/16 11:13	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/24/16 11:13	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/24/16 11:13	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/24/16 11:13	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/24/16 11:13	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/24/16 11:13	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/24/16 11:13	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/24/16 11:13	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/24/16 11:13	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/24/16 11:13	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/24/16 11:13	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/24/16 11:13	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/24/16 11:13	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/24/16 11:13	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/24/16 11:13	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/24/16 11:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/24/16 11:13	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/24/16 11:13	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/24/16 11:13	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/24/16 11:13	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/24/16 11:13	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/24/16 11:13	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/24/16 11:13	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE0933- Can Cert **Lab ID: 10360434011** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/24/16 11:13	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/24/16 11:13	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/24/16 11:13	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/24/16 11:13	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/24/16 11:13	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/24/16 11:13	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/24/16 11:13	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/24/16 11:13	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/24/16 11:13	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/24/16 11:13	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/24/16 11:13	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/24/16 11:13	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/24/16 11:13	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/24/16 11:13	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/24/16 11:13	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE1533- Can Cert** Lab ID: **10360434012** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		06/27/16 15:50	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		06/27/16 15:50	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		06/27/16 15:50	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		06/27/16 15:50	75-27-4	
Bromoform	<0.90	ug/m3	2.1	0.90	1		06/27/16 15:50	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		06/27/16 15:50	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		06/27/16 15:50	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		06/27/16 15:50	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		06/27/16 15:50	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		06/27/16 15:50	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		06/27/16 15:50	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		06/27/16 15:50	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		06/27/16 15:50	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		06/27/16 15:50	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		06/27/16 15:50	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		06/27/16 15:50	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		06/27/16 15:50	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		06/27/16 15:50	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		06/27/16 15:50	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		06/27/16 15:50	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		06/27/16 15:50	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		06/27/16 15:50	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		06/27/16 15:50	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		06/27/16 15:50	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		06/27/16 15:50	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		06/27/16 15:50	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		06/27/16 15:50	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		06/27/16 15:50	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		06/27/16 15:50	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		06/27/16 15:50	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		06/27/16 15:50	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		06/27/16 15:50	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		06/27/16 15:50	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		06/27/16 15:50	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		06/27/16 15:50	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		06/27/16 15:50	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		06/27/16 15:50	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		06/27/16 15:50	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		06/27/16 15:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		06/27/16 15:50	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		06/27/16 15:50	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		06/27/16 15:50	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		06/27/16 15:50	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		06/27/16 15:50	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		06/27/16 15:50	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		06/27/16 15:50	79-34-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE1533- Can Cert **Lab ID: 10360434012** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		06/27/16 15:50	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		06/27/16 15:50	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		06/27/16 15:50	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	7.5	0.91	1		06/27/16 15:50	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		06/27/16 15:50	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		06/27/16 15:50	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		06/27/16 15:50	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		06/27/16 15:50	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		06/27/16 15:50	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		06/27/16 15:50	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		06/27/16 15:50	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		06/27/16 15:50	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		06/27/16 15:50	75-01-4	
m&p-Xylene	<0.79	ug/m3	4.4	0.79	1		06/27/16 15:50	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		06/27/16 15:50	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: PACE1561- Can Cert **Lab ID: 10360434013** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/24/16 15:59	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/24/16 15:59	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/24/16 15:59	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/24/16 15:59	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/24/16 15:59	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/24/16 15:59	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/24/16 15:59	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/24/16 15:59	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/24/16 15:59	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/24/16 15:59	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/24/16 15:59	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/24/16 15:59	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/24/16 15:59	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/24/16 15:59	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/24/16 15:59	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/24/16 15:59	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/24/16 15:59	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/24/16 15:59	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/24/16 15:59	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/24/16 15:59	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/24/16 15:59	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/24/16 15:59	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/24/16 15:59	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/24/16 15:59	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/24/16 15:59	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/24/16 15:59	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/24/16 15:59	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/24/16 15:59	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/24/16 15:59	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/24/16 15:59	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/24/16 15:59	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/24/16 15:59	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/24/16 15:59	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/24/16 15:59	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/24/16 15:59	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/24/16 15:59	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/24/16 15:59	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/24/16 15:59	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/24/16 15:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/24/16 15:59	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/24/16 15:59	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/24/16 15:59	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/24/16 15:59	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/24/16 15:59	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/24/16 15:59	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/24/16 15:59	79-34-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE1561- Can Cert **Lab ID: 10360434013** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/24/16 15:59	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/24/16 15:59	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/24/16 15:59	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/24/16 15:59	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/24/16 15:59	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/24/16 15:59	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/24/16 15:59	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/24/16 15:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/24/16 15:59	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/24/16 15:59	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/24/16 15:59	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/24/16 15:59	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/24/16 15:59	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/24/16 15:59	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/24/16 15:59	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE1562- Can Cert** Lab ID: **10360434014** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/24/16 09:49	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/24/16 09:49	71-43-2	
Benzyl chloride	<0.17	ug/m3	1.0	0.17	1		08/24/16 09:49	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/24/16 09:49	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/24/16 09:49	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/24/16 09:49	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/24/16 09:49	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/24/16 09:49	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/24/16 09:49	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/24/16 09:49	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/24/16 09:49	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/24/16 09:49	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/24/16 09:49	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/24/16 09:49	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/24/16 09:49	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/24/16 09:49	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/24/16 09:49	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/24/16 09:49	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/24/16 09:49	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	1.2	0.50	1		08/24/16 09:49	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/24/16 09:49	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/24/16 09:49	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/24/16 09:49	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/24/16 09:49	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/24/16 09:49	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/24/16 09:49	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/24/16 09:49	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/24/16 09:49	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/24/16 09:49	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/24/16 09:49	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/24/16 09:49	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/24/16 09:49	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/24/16 09:49	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/24/16 09:49	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/24/16 09:49	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/24/16 09:49	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/24/16 09:49	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/24/16 09:49	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/24/16 09:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/24/16 09:49	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/24/16 09:49	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/24/16 09:49	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/24/16 09:49	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/24/16 09:49	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/24/16 09:49	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/24/16 09:49	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE1562- Can Cert **Lab ID: 10360434014** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/24/16 09:49	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/24/16 09:49	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/24/16 09:49	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/24/16 09:49	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/24/16 09:49	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/24/16 09:49	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/24/16 09:49	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/24/16 09:49	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/24/16 09:49	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/24/16 09:49	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/24/16 09:49	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/24/16 09:49	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/24/16 09:49	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/24/16 09:49	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/24/16 09:49	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: PACE1736- Can Cert **Lab ID: 10360434015** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/25/16 09:59	67-64-1	
Benzene	<0.12	ug/m3	0.65	0.12	1		08/25/16 09:59	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/25/16 09:59	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/25/16 09:59	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/25/16 09:59	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/25/16 09:59	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/25/16 09:59	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/25/16 09:59	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/25/16 09:59	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/25/16 09:59	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/25/16 09:59	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/25/16 09:59	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/25/16 09:59	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/25/16 09:59	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/25/16 09:59	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/25/16 09:59	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/25/16 09:59	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	3.1	0.51	1		08/25/16 09:59	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	3.1	0.53	1		08/25/16 09:59	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/25/16 09:59	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/25/16 09:59	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/25/16 09:59	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	2.1	0.20	1		08/25/16 09:59	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/25/16 09:59	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/25/16 09:59	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/25/16 09:59	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/25/16 09:59	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	2.3	0.37	1		08/25/16 09:59	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	2.3	0.26	1		08/25/16 09:59	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/25/16 09:59	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/25/16 09:59	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/25/16 09:59	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/25/16 09:59	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	2.5	0.19	1		08/25/16 09:59	622-96-8	
n-Heptane	<0.28	ug/m3	2.1	0.28	1		08/25/16 09:59	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	5.4	0.65	1		08/25/16 09:59	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/25/16 09:59	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/25/16 09:59	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/25/16 09:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	5.2	0.22	1		08/25/16 09:59	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/25/16 09:59	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/25/16 09:59	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/25/16 09:59	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/25/16 09:59	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/25/16 09:59	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	3.5	0.33	1		08/25/16 09:59	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE1736- Can Cert **Lab ID: 10360434015** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/25/16 09:59	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/25/16 09:59	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/25/16 09:59	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/25/16 09:59	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	2.8	0.25	1		08/25/16 09:59	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/25/16 09:59	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/25/16 09:59	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/25/16 09:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/25/16 09:59	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/25/16 09:59	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/25/16 09:59	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/25/16 09:59	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/25/16 09:59	75-01-4	
m&p-Xylene	<0.79	ug/m3	4.4	0.79	1		08/25/16 09:59	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/25/16 09:59	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE2294- Can Cert** Lab ID: **10360434016** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/28/16 09:31	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/28/16 09:31	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/28/16 09:31	100-44-7	
Bromodichloromethane	<0.19	ug/m3	3.4	0.19	1		08/28/16 09:31	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/28/16 09:31	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/28/16 09:31	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/28/16 09:31	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/28/16 09:31	78-93-3	
Carbon disulfide	<0.10	ug/m3	1.6	0.10	1		08/28/16 09:31	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/28/16 09:31	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/28/16 09:31	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/28/16 09:31	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/28/16 09:31	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/28/16 09:31	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/28/16 09:31	110-82-7	
Dibromochloromethane	<0.86	ug/m3	4.3	0.86	1		08/28/16 09:31	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/28/16 09:31	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	3.1	0.51	1		08/28/16 09:31	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	3.1	0.53	1		08/28/16 09:31	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/28/16 09:31	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/28/16 09:31	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/28/16 09:31	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/28/16 09:31	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/28/16 09:31	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/28/16 09:31	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/28/16 09:31	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/28/16 09:31	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	2.3	0.37	1		08/28/16 09:31	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	2.3	0.26	1		08/28/16 09:31	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/28/16 09:31	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/28/16 09:31	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/28/16 09:31	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/28/16 09:31	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/28/16 09:31	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/28/16 09:31	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/28/16 09:31	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/28/16 09:31	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/28/16 09:31	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/28/16 09:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/28/16 09:31	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/28/16 09:31	1634-04-4	
Naphthalene	2.0J	ug/m3	2.7	0.30	1		08/28/16 09:31	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/28/16 09:31	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/28/16 09:31	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/28/16 09:31	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	1.4	0.33	1		08/28/16 09:31	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE2294- Can Cert **Lab ID: 10360434016** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/28/16 09:31	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/28/16 09:31	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/28/16 09:31	108-88-3	
1,2,4-Trichlorobenzene	3.1J	ug/m3	3.8	0.91	1		08/28/16 09:31	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/28/16 09:31	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/28/16 09:31	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/28/16 09:31	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/28/16 09:31	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/28/16 09:31	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	1.0	0.12	1		08/28/16 09:31	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/28/16 09:31	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/28/16 09:31	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/28/16 09:31	75-01-4	
m&p-Xylene	<0.79	ug/m3	1.8	0.79	1		08/28/16 09:31	179601-23-1	
o-Xylene	<0.35	ug/m3	2.2	0.35	1		08/28/16 09:31	95-47-6	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Sample Project No.: 10361033

Sample: **PACE2798- Can Cert** Lab ID: **10360434017** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Acetone	<0.83	ug/m3	2.4	0.83	1		08/28/16 14:06	67-64-1	
Benzene	<0.12	ug/m3	0.32	0.12	1		08/28/16 14:06	71-43-2	
Benzyl chloride	<0.17	ug/m3	2.6	0.17	1		08/28/16 14:06	100-44-7	
Bromodichloromethane	<0.19	ug/m3	1.4	0.19	1		08/28/16 14:06	75-27-4	
Bromoform	<0.90	ug/m3	5.3	0.90	1		08/28/16 14:06	75-25-2	
Bromomethane	<0.31	ug/m3	0.79	0.31	1		08/28/16 14:06	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.45	0.18	1		08/28/16 14:06	106-99-0	
2-Butanone (MEK)	<0.23	ug/m3	3.0	0.23	1		08/28/16 14:06	78-93-3	
Carbon disulfide	<0.10	ug/m3	0.63	0.10	1		08/28/16 14:06	75-15-0	
Carbon tetrachloride	<0.19	ug/m3	0.64	0.19	1		08/28/16 14:06	56-23-5	
Chlorobenzene	<0.13	ug/m3	0.94	0.13	1		08/28/16 14:06	108-90-7	
Chloroethane	<0.19	ug/m3	0.54	0.19	1		08/28/16 14:06	75-00-3	
Chloroform	<0.19	ug/m3	0.50	0.19	1		08/28/16 14:06	67-66-3	
Chloromethane	<0.11	ug/m3	0.42	0.11	1		08/28/16 14:06	74-87-3	
Cyclohexane	<0.32	ug/m3	0.70	0.32	1		08/28/16 14:06	110-82-7	
Dibromochloromethane	<0.86	ug/m3	1.7	0.86	1		08/28/16 14:06	124-48-1	
1,2-Dibromoethane (EDB)	<0.77	ug/m3	1.6	0.77	1		08/28/16 14:06	106-93-4	
1,2-Dichlorobenzene	<0.51	ug/m3	1.2	0.51	1		08/28/16 14:06	95-50-1	
1,3-Dichlorobenzene	<0.53	ug/m3	1.2	0.53	1		08/28/16 14:06	541-73-1	
1,4-Dichlorobenzene	<0.50	ug/m3	3.1	0.50	1		08/28/16 14:06	106-46-7	
Dichlorodifluoromethane	<0.48	ug/m3	1.0	0.48	1		08/28/16 14:06	75-71-8	
1,1-Dichloroethane	<0.16	ug/m3	0.82	0.16	1		08/28/16 14:06	75-34-3	
1,2-Dichloroethane	<0.20	ug/m3	0.41	0.20	1		08/28/16 14:06	107-06-2	
1,1-Dichloroethene	<0.24	ug/m3	0.81	0.24	1		08/28/16 14:06	75-35-4	
cis-1,2-Dichloroethene	<0.25	ug/m3	0.81	0.25	1		08/28/16 14:06	156-59-2	
trans-1,2-Dichloroethene	<0.38	ug/m3	0.81	0.38	1		08/28/16 14:06	156-60-5	
1,2-Dichloropropane	<0.27	ug/m3	0.94	0.27	1		08/28/16 14:06	78-87-5	
cis-1,3-Dichloropropene	<0.37	ug/m3	0.92	0.37	1		08/28/16 14:06	10061-01-5	
trans-1,3-Dichloropropene	<0.26	ug/m3	0.92	0.26	1		08/28/16 14:06	10061-02-6	
Dichlorotetrafluoroethane	<0.31	ug/m3	1.4	0.31	1		08/28/16 14:06	76-14-2	
Ethanol	<0.26	ug/m3	0.96	0.26	1		08/28/16 14:06	64-17-5	
Ethyl acetate	<0.35	ug/m3	0.73	0.35	1		08/28/16 14:06	141-78-6	
Ethylbenzene	<0.42	ug/m3	0.88	0.42	1		08/28/16 14:06	100-41-4	
4-Ethyltoluene	<0.19	ug/m3	1.0	0.19	1		08/28/16 14:06	622-96-8	
n-Heptane	<0.28	ug/m3	0.83	0.28	1		08/28/16 14:06	142-82-5	
Hexachloro-1,3-butadiene	<0.65	ug/m3	2.2	0.65	1		08/28/16 14:06	87-68-3	
n-Hexane	<0.36	ug/m3	0.72	0.36	1		08/28/16 14:06	110-54-3	
2-Hexanone	<0.41	ug/m3	4.2	0.41	1		08/28/16 14:06	591-78-6	
Methylene Chloride	<0.54	ug/m3	3.5	0.54	1		08/28/16 14:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.22	ug/m3	4.2	0.22	1		08/28/16 14:06	108-10-1	
Methyl-tert-butyl ether	<0.30	ug/m3	3.7	0.30	1		08/28/16 14:06	1634-04-4	
Naphthalene	<0.30	ug/m3	2.7	0.30	1		08/28/16 14:06	91-20-3	
2-Propanol	<0.24	ug/m3	2.5	0.24	1		08/28/16 14:06	67-63-0	
Propylene	<0.14	ug/m3	0.35	0.14	1		08/28/16 14:06	115-07-1	
Styrene	<0.19	ug/m3	0.87	0.19	1		08/28/16 14:06	100-42-5	
1,1,2,2-Tetrachloroethane	<0.33	ug/m3	0.70	0.33	1		08/28/16 14:06	79-34-5	

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ANALYTICAL RESULTS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Sample: PACE2798- Can Cert **Lab ID: 10360434017** Collected: 08/31/16 00:00 Received: 08/31/16 14:59 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification		Analytical Method: TO-15							
Tetrachloroethene	<0.28	ug/m3	0.69	0.28	1		08/28/16 14:06	127-18-4	
Tetrahydrofuran	<0.12	ug/m3	0.60	0.12	1		08/28/16 14:06	109-99-9	
Toluene	<0.15	ug/m3	0.77	0.15	1		08/28/16 14:06	108-88-3	
1,2,4-Trichlorobenzene	<0.91	ug/m3	3.8	0.91	1		08/28/16 14:06	120-82-1	
1,1,1-Trichloroethane	<0.25	ug/m3	1.1	0.25	1		08/28/16 14:06	71-55-6	
1,1,2-Trichloroethane	<0.25	ug/m3	0.55	0.25	1		08/28/16 14:06	79-00-5	
Trichloroethene	<0.28	ug/m3	0.55	0.28	1		08/28/16 14:06	79-01-6	
Trichlorofluoromethane	<0.13	ug/m3	1.1	0.13	1		08/28/16 14:06	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.30	ug/m3	1.6	0.30	1		08/28/16 14:06	76-13-1	
1,2,4-Trimethylbenzene	<0.12	ug/m3	2.5	0.12	1		08/28/16 14:06	95-63-6	
1,3,5-Trimethylbenzene	<0.18	ug/m3	1.0	0.18	1		08/28/16 14:06	108-67-8	
Vinyl acetate	<0.33	ug/m3	0.72	0.33	1		08/28/16 14:06	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.26	0.20	1		08/28/16 14:06	75-01-4	
m&p-Xylene	<0.79	ug/m3	4.4	0.79	1		08/28/16 14:06	179601-23-1	
o-Xylene	<0.35	ug/m3	0.88	0.35	1		08/28/16 14:06	95-47-6	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: Freeman Ind. Cert Summa Cans

Pace Project No.: 10361033

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10360434007	PACE0005- Can Cert	TO-15	433644		
10360434008	PACE0410- Can Cert	TO-15	433644		
10360434009	PACE0630- Can Cert	TO-15	433644		
10360434010	PACE0634- Can Cert	TO-15	433644		
10360434011	PACE0933- Can Cert	TO-15	433644		
10360434012	PACE1533- Can Cert	TO-15	433644		
10360434013	PACE1561- Can Cert	TO-15	433644		
10360434014	PACE1562- Can Cert	TO-15	433644		
10360434015	PACE1736- Can Cert	TO-15	433644		
10360434016	PACE2294- Can Cert	TO-15	433644		
10360434017	PACE2798- Can Cert	TO-15	433644		

REPORT OF LABORATORY ANALYSIS

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	Document Name: Chain of Custody Place Holder	Document Revised: 30May2013 Page 1 of 1
	Document No.: F-MN-Q-249-rev.01	Issuing Authority: Pace Minnesota Quality Office

Chain of Custody Place Holder

For Auto Final Report

Generation

This form is to be used as a placeholder for any projects that do not have a COC included, e.g. Lot checks, internal project reports, QC placeholder projects, etc. This is required to ensure that the FRC will generate properly. All client projects should be received with a COC and this should not be used for such reports.

September 02, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

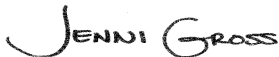
RE: Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10361247

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on September 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Mike Niemet, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10361247

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10361247001	OA1-15710P-20160830	Air	08/31/16 10:47	09/01/16 10:00
10361247002	IA1-15710P-20160830	Air	08/31/16 10:56	09/01/16 10:00
10361247003	OA1-15608P-20160830	Air	08/31/16 10:50	09/01/16 10:00
10361247004	IA1-15608P-20160830	Air	08/31/16 10:55	09/01/16 10:00
10361247009	IA1-15608P-20160830	Air	08/31/16 00:00	09/01/16 10:00

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SAMPLE ANALYTE COUNT

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10361247001	OA1-15710P-20160830	TO-15	NCK	60	PASI-M
10361247002	IA1-15710P-20160830	TO-15	NCK	60	PASI-M
10361247003	OA1-15608P-20160830	TO-15	NCK	60	PASI-M
10361247004	IA1-15608P-20160830	TO-15	NCK	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10361247

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10361247001	OA1-15710P-20160830					
TO-15	Acetone	12.6	ug/m3	4.2	09/02/16 11:20	
TO-15	Benzene	0.41J	ug/m3	0.57	09/02/16 11:20	
TO-15	Carbon tetrachloride	0.82J	ug/m3	1.1	09/02/16 11:20	
TO-15	Chloromethane	0.96	ug/m3	0.74	09/02/16 11:20	
TO-15	Dichlorodifluoromethane	1.7J	ug/m3	1.8	09/02/16 11:20	
TO-15	Ethanol	13.9	ug/m3	3.4	09/02/16 11:20	
TO-15	Methylene Chloride	7.3	ug/m3	6.2	09/02/16 11:20	B
TO-15	Naphthalene	16.0	ug/m3	4.7	09/02/16 11:20	
TO-15	Tetrachloroethene	1.1J	ug/m3	1.2	09/02/16 11:20	
TO-15	Toluene	1.8	ug/m3	1.3	09/02/16 11:20	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	2.0	09/02/16 11:20	
TO-15	Vinyl acetate	1.0J	ug/m3	1.3	09/02/16 11:20	
TO-15	m&p-Xylene	2.5J	ug/m3	3.1	09/02/16 11:20	
TO-15	n-Hexane	0.71J	ug/m3	1.3	09/02/16 11:20	
10361247002	IA1-15710P-20160830					
TO-15	1,1,1-Trichloroethane	1.8J	ug/m3	4.7	09/02/16 11:47	
TO-15	1,2-Dichloroethane	3.8	ug/m3	3.5	09/02/16 11:47	
TO-15	2-Propanol	8.4	ug/m3	4.2	09/02/16 11:47	CH
TO-15	Acetone	26.5	ug/m3	4.1	09/02/16 11:47	
TO-15	Benzene	0.45J	ug/m3	0.55	09/02/16 11:47	
TO-15	Carbon tetrachloride	0.68J	ug/m3	1.1	09/02/16 11:47	
TO-15	Chloromethane	1.1	ug/m3	0.71	09/02/16 11:47	
TO-15	Cyclohexane	1.4	ug/m3	1.2	09/02/16 11:47	
TO-15	Dichlorodifluoromethane	2.7	ug/m3	1.7	09/02/16 11:47	
TO-15	Ethanol	344	ug/m3	3.2	09/02/16 11:47	
TO-15	Ethyl acetate	2.8	ug/m3	1.2	09/02/16 11:47	
TO-15	Methylene Chloride	5.0J	ug/m3	5.9	09/02/16 11:47	B
TO-15	Naphthalene	10.3	ug/m3	4.5	09/02/16 11:47	
TO-15	Styrene	1.9J	ug/m3	3.6	09/02/16 11:47	
TO-15	Tetrachloroethene	0.71J	ug/m3	1.2	09/02/16 11:47	
TO-15	Tetrahydrofuran	0.79J	ug/m3	1.0	09/02/16 11:47	
TO-15	Toluene	5.8	ug/m3	1.3	09/02/16 11:47	
TO-15	Trichloroethene	1.1J	ug/m3	1.8	09/02/16 11:47	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	1.9	09/02/16 11:47	
TO-15	Vinyl acetate	1.0J	ug/m3	1.2	09/02/16 11:47	
TO-15	m&p-Xylene	2.5J	ug/m3	3.0	09/02/16 11:47	
TO-15	n-Heptane	3.9	ug/m3	1.4	09/02/16 11:47	
TO-15	n-Hexane	0.66J	ug/m3	1.2	09/02/16 11:47	
TO-15	o-Xylene	1.7J	ug/m3	3.7	09/02/16 11:47	
10361247003	OA1-15608P-20160830					
TO-15	Acetone	12.4	ug/m3	4.2	09/02/16 12:15	
TO-15	Benzene	0.48J	ug/m3	0.57	09/02/16 12:15	
TO-15	Carbon disulfide	0.90J	ug/m3	1.1	09/02/16 12:15	
TO-15	Carbon tetrachloride	0.84J	ug/m3	1.1	09/02/16 12:15	
TO-15	Chloromethane	0.87	ug/m3	0.74	09/02/16 12:15	
TO-15	Dichlorodifluoromethane	1.8J	ug/m3	1.8	09/02/16 12:15	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10361247003	OA1-15608P-20160830					
TO-15	Ethanol	14.9	ug/m3	3.4	09/02/16 12:15	
TO-15	Ethyl acetate	2.7	ug/m3	1.3	09/02/16 12:15	
TO-15	Methylene Chloride	5.7J	ug/m3	6.2	09/02/16 12:15	B
TO-15	Naphthalene	13.9	ug/m3	4.7	09/02/16 12:15	
TO-15	Toluene	1.8	ug/m3	1.3	09/02/16 12:15	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	2.0	09/02/16 12:15	
TO-15	Vinyl acetate	0.99J	ug/m3	1.3	09/02/16 12:15	
TO-15	m&p-Xylene	2.6J	ug/m3	3.1	09/02/16 12:15	
TO-15	n-Hexane	0.85J	ug/m3	1.3	09/02/16 12:15	
TO-15	o-Xylene	1.7J	ug/m3	3.9	09/02/16 12:15	
10361247004	IA1-15608P-20160830					
TO-15	1,1,2,2-Tetrachloroethane	1.5J	ug/m3	2.3	09/02/16 12:42	
TO-15	1,1,2-Trichlorotrifluoroethane	0.74J	ug/m3	2.7	09/02/16 12:42	
TO-15	1,2,4-Trimethylbenzene	1.4J	ug/m3	1.7	09/02/16 12:42	
TO-15	1,2-Dibromoethane (EDB)	2.1J	ug/m3	2.6	09/02/16 12:42	
TO-15	1,2-Dichloroethane	6.0	ug/m3	3.5	09/02/16 12:42	
TO-15	1,3,5-Trimethylbenzene	0.89J	ug/m3	1.7	09/02/16 12:42	
TO-15	1,4-Dichlorobenzene	1.1J	ug/m3	2.0	09/02/16 12:42	
TO-15	2-Butanone (MEK)	3.5J	ug/m3	5.0	09/02/16 12:42	
TO-15	2-Hexanone	7.7	ug/m3	7.0	09/02/16 12:42	
TO-15	2-Propanol	37.2	ug/m3	4.2	09/02/16 12:42	CH
TO-15	4-Ethyltoluene	1.1J	ug/m3	1.7	09/02/16 12:42	
TO-15	4-Methyl-2-pentanone (MIBK)	5.7J	ug/m3	7.0	09/02/16 12:42	
TO-15	Acetone	36.3	ug/m3	4.1	09/02/16 12:42	
TO-15	Benzene	0.59	ug/m3	0.55	09/02/16 12:42	
TO-15	Bromodichloromethane	1.5J	ug/m3	2.3	09/02/16 12:42	
TO-15	Bromoform	4.0J	ug/m3	8.8	09/02/16 12:42	
TO-15	Bromomethane	1.2J	ug/m3	1.3	09/02/16 12:42	
TO-15	Carbon disulfide	0.68J	ug/m3	1.1	09/02/16 12:42	
TO-15	Carbon tetrachloride	2.5	ug/m3	1.1	09/02/16 12:42	
TO-15	Chloroform	0.49J	ug/m3	0.83	09/02/16 12:42	
TO-15	Chloromethane	1.5	ug/m3	0.71	09/02/16 12:42	
TO-15	Cyclohexane	1.2	ug/m3	1.2	09/02/16 12:42	
TO-15	Dibromochloromethane	1.9J	ug/m3	2.9	09/02/16 12:42	
TO-15	Dichlorodifluoromethane	1.8	ug/m3	1.7	09/02/16 12:42	
TO-15	Ethanol	642	ug/m3	3.2	09/02/16 12:42	E
TO-15	Ethyl acetate	5.6	ug/m3	1.2	09/02/16 12:42	
TO-15	Methyl-tert-butyl ether	9.5	ug/m3	6.2	09/02/16 12:42	CH
TO-15	Methylene Chloride	4.9J	ug/m3	5.9	09/02/16 12:42	B
TO-15	Naphthalene	24.7	ug/m3	4.5	09/02/16 12:42	
TO-15	Styrene	2.5J	ug/m3	3.6	09/02/16 12:42	
TO-15	Tetrachloroethene	1.1J	ug/m3	1.2	09/02/16 12:42	
TO-15	Tetrahydrofuran	0.54J	ug/m3	1.0	09/02/16 12:42	
TO-15	Toluene	2.9	ug/m3	1.3	09/02/16 12:42	
TO-15	Trichloroethene	1.0J	ug/m3	1.8	09/02/16 12:42	
TO-15	Trichlorofluoromethane	1.7J	ug/m3	1.9	09/02/16 12:42	
TO-15	Vinyl acetate	3.4	ug/m3	1.2	09/02/16 12:42	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10361247004	IA1-15608P-20160830					
TO-15	m&p-Xylene	3.5	ug/m3	3.0	09/02/16 12:42	
TO-15	n-Heptane	1.3J	ug/m3	1.4	09/02/16 12:42	
TO-15	n-Hexane	1.5	ug/m3	1.2	09/02/16 12:42	
TO-15	o-Xylene	2.1J	ug/m3	3.7	09/02/16 12:42	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Method: TO-15

Description: TO15 MSV AIR

Client: UPRR_CH2M Hill

Date: September 02, 2016

General Information:

4 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 433939

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- IA1-15608P-20160830 (Lab ID: 10361247004)
 - 2-Propanol
 - Methyl-tert-butyl ether
- IA1-15710P-20160830 (Lab ID: 10361247002)
 - 2-Propanol
- LCS (Lab ID: 2359658)
 - 2-Propanol
 - Methyl-tert-butyl ether
 - Propylene
 - Vinyl chloride

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 433939

B: Analyte was detected in the associated method blank.

- BLANK for HBN 433939 [AIR/2660 (Lab ID: 2359657)
 - Methylene Chloride

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Method: TO-15

Description: TO15 MSV AIR

Client: UPRR_CH2M Hill

Date: September 02, 2016

Analyte Comments:

QC Batch: 433939

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- IA1-15608P-20160830 (Lab ID: 10361247004)
- Ethanol

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10361247

Sample: **OA1-15710P-20160830** Lab ID: **10361247001** Collected: 08/31/16 10:47 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.43	ug/m3	4.9	0.43	1.75		09/02/16 11:20	71-55-6	
1,1,2,2-Tetrachloroethane	<0.58	ug/m3	2.4	0.58	1.75		09/02/16 11:20	79-34-5	
1,1,2-Trichloroethane	<0.43	ug/m3	1.9	0.43	1.75		09/02/16 11:20	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.53	ug/m3	2.8	0.53	1.75		09/02/16 11:20	76-13-1	
1,1-Dichloroethane	<0.27	ug/m3	1.4	0.27	1.75		09/02/16 11:20	75-34-3	
1,1-Dichloroethene	<0.42	ug/m3	1.4	0.42	1.75		09/02/16 11:20	75-35-4	
1,2,4-Trichlorobenzene	<1.6	ug/m3	6.6	1.6	1.75		09/02/16 11:20	120-82-1	
1,2,4-Trimethylbenzene	<0.22	ug/m3	1.7	0.22	1.75		09/02/16 11:20	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.7	1.4	1.75		09/02/16 11:20	106-93-4	
1,2-Dichlorobenzene	<0.90	ug/m3	2.1	0.90	1.75		09/02/16 11:20	95-50-1	
1,2-Dichloroethane	<0.36	ug/m3	3.6	0.36	1.75		09/02/16 11:20	107-06-2	
1,2-Dichloropropane	<0.47	ug/m3	1.6	0.47	1.75		09/02/16 11:20	78-87-5	
1,3,5-Trimethylbenzene	<0.32	ug/m3	1.7	0.32	1.75		09/02/16 11:20	108-67-8	
1,3-Butadiene	<0.31	ug/m3	0.79	0.31	1.75		09/02/16 11:20	106-99-0	
1,3-Dichlorobenzene	<0.93	ug/m3	5.3	0.93	1.75		09/02/16 11:20	541-73-1	
1,4-Dichlorobenzene	<0.87	ug/m3	2.1	0.87	1.75		09/02/16 11:20	106-46-7	
2-Butanone (MEK)	<0.40	ug/m3	5.2	0.40	1.75		09/02/16 11:20	78-93-3	
2-Hexanone	<0.72	ug/m3	7.3	0.72	1.75		09/02/16 11:20	591-78-6	
2-Propanol	<0.42	ug/m3	4.4	0.42	1.75		09/02/16 11:20	67-63-0	
4-Ethyltoluene	<0.33	ug/m3	1.8	0.33	1.75		09/02/16 11:20	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.38	ug/m3	7.3	0.38	1.75		09/02/16 11:20	108-10-1	
Acetone	12.6	ug/m3	4.2	1.5	1.75		09/02/16 11:20	67-64-1	
Benzene	0.41J	ug/m3	0.57	0.21	1.75		09/02/16 11:20	71-43-2	
Benzyl chloride	<0.29	ug/m3	1.8	0.29	1.75		09/02/16 11:20	100-44-7	
Bromodichloromethane	<0.34	ug/m3	2.4	0.34	1.75		09/02/16 11:20	75-27-4	
Bromoform	<1.6	ug/m3	9.2	1.6	1.75		09/02/16 11:20	75-25-2	
Bromomethane	<0.54	ug/m3	1.4	0.54	1.75		09/02/16 11:20	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.1	0.18	1.75		09/02/16 11:20	75-15-0	
Carbon tetrachloride	0.82J	ug/m3	1.1	0.34	1.75		09/02/16 11:20	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.75		09/02/16 11:20	108-90-7	
Chloroethane	<0.34	ug/m3	0.94	0.34	1.75		09/02/16 11:20	75-00-3	
Chloroform	<0.33	ug/m3	0.87	0.33	1.75		09/02/16 11:20	67-66-3	
Chloromethane	0.96	ug/m3	0.74	0.19	1.75		09/02/16 11:20	74-87-3	
Cyclohexane	<0.55	ug/m3	1.2	0.55	1.75		09/02/16 11:20	110-82-7	
Dibromochloromethane	<1.5	ug/m3	3.0	1.5	1.75		09/02/16 11:20	124-48-1	
Dichlorodifluoromethane	1.7J	ug/m3	1.8	0.84	1.75		09/02/16 11:20	75-71-8	
Dichlorotetrafluoroethane	<0.54	ug/m3	2.5	0.54	1.75		09/02/16 11:20	76-14-2	
Ethanol	13.9	ug/m3	3.4	0.46	1.75		09/02/16 11:20	64-17-5	
Ethyl acetate	<0.61	ug/m3	1.3	0.61	1.75		09/02/16 11:20	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.8	1.1	1.75		09/02/16 11:20	87-68-3	
Methyl-tert-butyl ether	<0.53	ug/m3	6.4	0.53	1.75		09/02/16 11:20	1634-04-4	
Methylene Chloride	7.3	ug/m3	6.2	0.95	1.75		09/02/16 11:20	75-09-2	B
Naphthalene	16.0	ug/m3	4.7	0.53	1.75		09/02/16 11:20	91-20-3	
Propylene	<0.24	ug/m3	0.61	0.24	1.75		09/02/16 11:20	115-07-1	
Styrene	<0.34	ug/m3	3.8	0.34	1.75		09/02/16 11:20	100-42-5	
Tetrachloroethene	1.1J	ug/m3	1.2	0.49	1.75		09/02/16 11:20	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Sample: OA1-15710P-20160830 **Lab ID: 10361247001** Collected: 08/31/16 10:47 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.21	ug/m3	1.0	0.21	1.75		09/02/16 11:20	109-99-9	
Toluene	1.8	ug/m3	1.3	0.27	1.75		09/02/16 11:20	108-88-3	
Trichloroethene	<0.48	ug/m3	1.9	0.48	1.75		09/02/16 11:20	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	2.0	0.23	1.75		09/02/16 11:20	75-69-4	
Vinyl acetate	1.0J	ug/m3	1.3	0.58	1.75		09/02/16 11:20	108-05-4	
Vinyl chloride	<0.34	ug/m3	0.46	0.34	1.75		09/02/16 11:20	75-01-4	
cis-1,2-Dichloroethene	<0.43	ug/m3	1.4	0.43	1.75		09/02/16 11:20	156-59-2	
cis-1,3-Dichloropropene	<0.65	ug/m3	1.6	0.65	1.75		09/02/16 11:20	10061-01-5	
m&p-Xylene	2.5J	ug/m3	3.1	1.4	1.75		09/02/16 11:20	179601-23-1	
n-Heptane	<0.49	ug/m3	1.5	0.49	1.75		09/02/16 11:20	142-82-5	
n-Hexane	0.71J	ug/m3	1.3	0.62	1.75		09/02/16 11:20	110-54-3	
o-Xylene	<0.61	ug/m3	3.9	0.61	1.75		09/02/16 11:20	95-47-6	
trans-1,2-Dichloroethene	<0.67	ug/m3	1.4	0.67	1.75		09/02/16 11:20	156-60-5	
trans-1,3-Dichloropropene	<0.46	ug/m3	4.0	0.46	1.75		09/02/16 11:20	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10361247

Sample: IA1-15710P-20160830 Lab ID: 10361247002 Collected: 08/31/16 10:56 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	1.8J	ug/m3	4.7	0.41	1.68		09/02/16 11:47	71-55-6	
1,1,2,2-Tetrachloroethane	<0.55	ug/m3	2.3	0.55	1.68		09/02/16 11:47	79-34-5	
1,1,2-Trichloroethane	<0.41	ug/m3	1.9	0.41	1.68		09/02/16 11:47	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.51	ug/m3	2.7	0.51	1.68		09/02/16 11:47	76-13-1	
1,1-Dichloroethane	<0.26	ug/m3	1.4	0.26	1.68		09/02/16 11:47	75-34-3	
1,1-Dichloroethene	<0.40	ug/m3	1.4	0.40	1.68		09/02/16 11:47	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.3	1.5	1.68		09/02/16 11:47	120-82-1	
1,2,4-Trimethylbenzene	<0.21	ug/m3	1.7	0.21	1.68		09/02/16 11:47	95-63-6	
1,2-Dibromoethane (EDB)	<1.3	ug/m3	2.6	1.3	1.68		09/02/16 11:47	106-93-4	
1,2-Dichlorobenzene	<0.86	ug/m3	2.0	0.86	1.68		09/02/16 11:47	95-50-1	
1,2-Dichloroethane	3.8	ug/m3	3.5	0.34	1.68		09/02/16 11:47	107-06-2	
1,2-Dichloropropane	<0.45	ug/m3	1.6	0.45	1.68		09/02/16 11:47	78-87-5	
1,3,5-Trimethylbenzene	<0.31	ug/m3	1.7	0.31	1.68		09/02/16 11:47	108-67-8	
1,3-Butadiene	<0.30	ug/m3	0.76	0.30	1.68		09/02/16 11:47	106-99-0	
1,3-Dichlorobenzene	<0.89	ug/m3	5.1	0.89	1.68		09/02/16 11:47	541-73-1	
1,4-Dichlorobenzene	<0.84	ug/m3	2.0	0.84	1.68		09/02/16 11:47	106-46-7	
2-Butanone (MEK)	<0.38	ug/m3	5.0	0.38	1.68		09/02/16 11:47	78-93-3	
2-Hexanone	<0.69	ug/m3	7.0	0.69	1.68		09/02/16 11:47	591-78-6	
2-Propanol	8.4	ug/m3	4.2	0.40	1.68		09/02/16 11:47	67-63-0	CH
4-Ethyltoluene	<0.32	ug/m3	1.7	0.32	1.68		09/02/16 11:47	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.36	ug/m3	7.0	0.36	1.68		09/02/16 11:47	108-10-1	
Acetone	26.5	ug/m3	4.1	1.4	1.68		09/02/16 11:47	67-64-1	
Benzene	0.45J	ug/m3	0.55	0.20	1.68		09/02/16 11:47	71-43-2	
Benzyl chloride	<0.28	ug/m3	1.8	0.28	1.68		09/02/16 11:47	100-44-7	
Bromodichloromethane	<0.33	ug/m3	2.3	0.33	1.68		09/02/16 11:47	75-27-4	
Bromoform	<1.5	ug/m3	8.8	1.5	1.68		09/02/16 11:47	75-25-2	
Bromomethane	<0.52	ug/m3	1.3	0.52	1.68		09/02/16 11:47	74-83-9	
Carbon disulfide	<0.17	ug/m3	1.1	0.17	1.68		09/02/16 11:47	75-15-0	
Carbon tetrachloride	0.68J	ug/m3	1.1	0.32	1.68		09/02/16 11:47	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.68		09/02/16 11:47	108-90-7	
Chloroethane	<0.33	ug/m3	0.91	0.33	1.68		09/02/16 11:47	75-00-3	
Chloroform	<0.32	ug/m3	0.83	0.32	1.68		09/02/16 11:47	67-66-3	
Chloromethane	1.1	ug/m3	0.71	0.18	1.68		09/02/16 11:47	74-87-3	
Cyclohexane	1.4	ug/m3	1.2	0.53	1.68		09/02/16 11:47	110-82-7	
Dibromochloromethane	<1.4	ug/m3	2.9	1.4	1.68		09/02/16 11:47	124-48-1	
Dichlorodifluoromethane	2.7	ug/m3	1.7	0.81	1.68		09/02/16 11:47	75-71-8	
Dichlorotetrafluoroethane	<0.52	ug/m3	2.4	0.52	1.68		09/02/16 11:47	76-14-2	
Ethanol	344	ug/m3	3.2	0.45	1.68		09/02/16 11:47	64-17-5	
Ethyl acetate	2.8	ug/m3	1.2	0.58	1.68		09/02/16 11:47	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.6	1.1	1.68		09/02/16 11:47	87-68-3	
Methyl-tert-butyl ether	<0.51	ug/m3	6.2	0.51	1.68		09/02/16 11:47	1634-04-4	
Methylene Chloride	5.0J	ug/m3	5.9	0.91	1.68		09/02/16 11:47	75-09-2	B
Naphthalene	10.3	ug/m3	4.5	0.51	1.68		09/02/16 11:47	91-20-3	
Propylene	<0.23	ug/m3	0.59	0.23	1.68		09/02/16 11:47	115-07-1	
Styrene	1.9J	ug/m3	3.6	0.32	1.68		09/02/16 11:47	100-42-5	
Tetrachloroethene	0.71J	ug/m3	1.2	0.47	1.68		09/02/16 11:47	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Sample: IA1-15710P-20160830 **Lab ID: 10361247002** Collected: 08/31/16 10:56 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	0.79J	ug/m3	1.0	0.20	1.68		09/02/16 11:47	109-99-9	
Toluene	5.8	ug/m3	1.3	0.26	1.68		09/02/16 11:47	108-88-3	
Trichloroethene	1.1J	ug/m3	1.8	0.46	1.68		09/02/16 11:47	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.9	0.22	1.68		09/02/16 11:47	75-69-4	
Vinyl acetate	1.0J	ug/m3	1.2	0.55	1.68		09/02/16 11:47	108-05-4	
Vinyl chloride	<0.33	ug/m3	0.44	0.33	1.68		09/02/16 11:47	75-01-4	
cis-1,2-Dichloroethene	<0.41	ug/m3	1.4	0.41	1.68		09/02/16 11:47	156-59-2	
cis-1,3-Dichloropropene	<0.62	ug/m3	1.5	0.62	1.68		09/02/16 11:47	10061-01-5	
m&p-Xylene	2.5J	ug/m3	3.0	1.3	1.68		09/02/16 11:47	179601-23-1	
n-Heptane	3.9	ug/m3	1.4	0.47	1.68		09/02/16 11:47	142-82-5	
n-Hexane	0.66J	ug/m3	1.2	0.60	1.68		09/02/16 11:47	110-54-3	
o-Xylene	1.7J	ug/m3	3.7	0.59	1.68		09/02/16 11:47	95-47-6	
trans-1,2-Dichloroethene	<0.65	ug/m3	1.4	0.65	1.68		09/02/16 11:47	156-60-5	
trans-1,3-Dichloropropene	<0.44	ug/m3	3.9	0.44	1.68		09/02/16 11:47	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10361247

Sample: **OA1-15608P-20160830** Lab ID: **10361247003** Collected: 08/31/16 10:50 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.43	ug/m3	4.9	0.43	1.75		09/02/16 12:15	71-55-6	
1,1,2,2-Tetrachloroethane	<0.58	ug/m3	2.4	0.58	1.75		09/02/16 12:15	79-34-5	
1,1,2-Trichloroethane	<0.43	ug/m3	1.9	0.43	1.75		09/02/16 12:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.53	ug/m3	2.8	0.53	1.75		09/02/16 12:15	76-13-1	
1,1-Dichloroethane	<0.27	ug/m3	1.4	0.27	1.75		09/02/16 12:15	75-34-3	
1,1-Dichloroethene	<0.42	ug/m3	1.4	0.42	1.75		09/02/16 12:15	75-35-4	
1,2,4-Trichlorobenzene	<1.6	ug/m3	6.6	1.6	1.75		09/02/16 12:15	120-82-1	
1,2,4-Trimethylbenzene	<0.22	ug/m3	1.7	0.22	1.75		09/02/16 12:15	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	2.7	1.4	1.75		09/02/16 12:15	106-93-4	
1,2-Dichlorobenzene	<0.90	ug/m3	2.1	0.90	1.75		09/02/16 12:15	95-50-1	
1,2-Dichloroethane	<0.36	ug/m3	3.6	0.36	1.75		09/02/16 12:15	107-06-2	
1,2-Dichloropropane	<0.47	ug/m3	1.6	0.47	1.75		09/02/16 12:15	78-87-5	
1,3,5-Trimethylbenzene	<0.32	ug/m3	1.7	0.32	1.75		09/02/16 12:15	108-67-8	
1,3-Butadiene	<0.31	ug/m3	0.79	0.31	1.75		09/02/16 12:15	106-99-0	
1,3-Dichlorobenzene	<0.93	ug/m3	5.3	0.93	1.75		09/02/16 12:15	541-73-1	
1,4-Dichlorobenzene	<0.87	ug/m3	2.1	0.87	1.75		09/02/16 12:15	106-46-7	
2-Butanone (MEK)	<0.40	ug/m3	5.2	0.40	1.75		09/02/16 12:15	78-93-3	
2-Hexanone	<0.72	ug/m3	7.3	0.72	1.75		09/02/16 12:15	591-78-6	
2-Propanol	<0.42	ug/m3	4.4	0.42	1.75		09/02/16 12:15	67-63-0	
4-Ethyltoluene	<0.33	ug/m3	1.8	0.33	1.75		09/02/16 12:15	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.38	ug/m3	7.3	0.38	1.75		09/02/16 12:15	108-10-1	
Acetone	12.4	ug/m3	4.2	1.5	1.75		09/02/16 12:15	67-64-1	
Benzene	0.48J	ug/m3	0.57	0.21	1.75		09/02/16 12:15	71-43-2	
Benzyl chloride	<0.29	ug/m3	1.8	0.29	1.75		09/02/16 12:15	100-44-7	
Bromodichloromethane	<0.34	ug/m3	2.4	0.34	1.75		09/02/16 12:15	75-27-4	
Bromoform	<1.6	ug/m3	9.2	1.6	1.75		09/02/16 12:15	75-25-2	
Bromomethane	<0.54	ug/m3	1.4	0.54	1.75		09/02/16 12:15	74-83-9	
Carbon disulfide	0.90J	ug/m3	1.1	0.18	1.75		09/02/16 12:15	75-15-0	
Carbon tetrachloride	0.84J	ug/m3	1.1	0.34	1.75		09/02/16 12:15	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.75		09/02/16 12:15	108-90-7	
Chloroethane	<0.34	ug/m3	0.94	0.34	1.75		09/02/16 12:15	75-00-3	
Chloroform	<0.33	ug/m3	0.87	0.33	1.75		09/02/16 12:15	67-66-3	
Chloromethane	0.87	ug/m3	0.74	0.19	1.75		09/02/16 12:15	74-87-3	
Cyclohexane	<0.55	ug/m3	1.2	0.55	1.75		09/02/16 12:15	110-82-7	
Dibromochloromethane	<1.5	ug/m3	3.0	1.5	1.75		09/02/16 12:15	124-48-1	
Dichlorodifluoromethane	1.8J	ug/m3	1.8	0.84	1.75		09/02/16 12:15	75-71-8	
Dichlorotetrafluoroethane	<0.54	ug/m3	2.5	0.54	1.75		09/02/16 12:15	76-14-2	
Ethanol	14.9	ug/m3	3.4	0.46	1.75		09/02/16 12:15	64-17-5	
Ethyl acetate	2.7	ug/m3	1.3	0.61	1.75		09/02/16 12:15	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.8	1.1	1.75		09/02/16 12:15	87-68-3	
Methyl-tert-butyl ether	<0.53	ug/m3	6.4	0.53	1.75		09/02/16 12:15	1634-04-4	
Methylene Chloride	5.7J	ug/m3	6.2	0.95	1.75		09/02/16 12:15	75-09-2	B
Naphthalene	13.9	ug/m3	4.7	0.53	1.75		09/02/16 12:15	91-20-3	
Propylene	<0.24	ug/m3	0.61	0.24	1.75		09/02/16 12:15	115-07-1	
Styrene	<0.34	ug/m3	3.8	0.34	1.75		09/02/16 12:15	100-42-5	
Tetrachloroethene	<0.49	ug/m3	1.2	0.49	1.75		09/02/16 12:15	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Sample: OA1-15608P-20160830 **Lab ID: 10361247003** Collected: 08/31/16 10:50 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.21	ug/m3	1.0	0.21	1.75		09/02/16 12:15	109-99-9	
Toluene	1.8	ug/m3	1.3	0.27	1.75		09/02/16 12:15	108-88-3	
Trichloroethene	<0.48	ug/m3	1.9	0.48	1.75		09/02/16 12:15	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	2.0	0.23	1.75		09/02/16 12:15	75-69-4	
Vinyl acetate	0.99J	ug/m3	1.3	0.58	1.75		09/02/16 12:15	108-05-4	
Vinyl chloride	<0.34	ug/m3	0.46	0.34	1.75		09/02/16 12:15	75-01-4	
cis-1,2-Dichloroethene	<0.43	ug/m3	1.4	0.43	1.75		09/02/16 12:15	156-59-2	
cis-1,3-Dichloropropene	<0.65	ug/m3	1.6	0.65	1.75		09/02/16 12:15	10061-01-5	
m&p-Xylene	2.6J	ug/m3	3.1	1.4	1.75		09/02/16 12:15	179601-23-1	
n-Heptane	<0.49	ug/m3	1.5	0.49	1.75		09/02/16 12:15	142-82-5	
n-Hexane	0.85J	ug/m3	1.3	0.62	1.75		09/02/16 12:15	110-54-3	
o-Xylene	1.7J	ug/m3	3.9	0.61	1.75		09/02/16 12:15	95-47-6	
trans-1,2-Dichloroethene	<0.67	ug/m3	1.4	0.67	1.75		09/02/16 12:15	156-60-5	
trans-1,3-Dichloropropene	<0.46	ug/m3	4.0	0.46	1.75		09/02/16 12:15	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Sample: IA1-15608P-20160830 Lab ID: 10361247004 Collected: 08/31/16 10:55 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.41	ug/m3	4.7	0.41	1.68		09/02/16 12:42	71-55-6	
1,1,2,2-Tetrachloroethane	1.5J	ug/m3	2.3	0.55	1.68		09/02/16 12:42	79-34-5	
1,1,2-Trichloroethane	<0.41	ug/m3	1.9	0.41	1.68		09/02/16 12:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.74J	ug/m3	2.7	0.51	1.68		09/02/16 12:42	76-13-1	
1,1-Dichloroethane	<0.26	ug/m3	1.4	0.26	1.68		09/02/16 12:42	75-34-3	
1,1-Dichloroethene	<0.40	ug/m3	1.4	0.40	1.68		09/02/16 12:42	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.3	1.5	1.68		09/02/16 12:42	120-82-1	
1,2,4-Trimethylbenzene	1.4J	ug/m3	1.7	0.21	1.68		09/02/16 12:42	95-63-6	
1,2-Dibromoethane (EDB)	2.1J	ug/m3	2.6	1.3	1.68		09/02/16 12:42	106-93-4	
1,2-Dichlorobenzene	<0.86	ug/m3	2.0	0.86	1.68		09/02/16 12:42	95-50-1	
1,2-Dichloroethane	6.0	ug/m3	3.5	0.34	1.68		09/02/16 12:42	107-06-2	
1,2-Dichloropropane	<0.45	ug/m3	1.6	0.45	1.68		09/02/16 12:42	78-87-5	
1,3,5-Trimethylbenzene	0.89J	ug/m3	1.7	0.31	1.68		09/02/16 12:42	108-67-8	
1,3-Butadiene	<0.30	ug/m3	0.76	0.30	1.68		09/02/16 12:42	106-99-0	
1,3-Dichlorobenzene	<0.89	ug/m3	5.1	0.89	1.68		09/02/16 12:42	541-73-1	
1,4-Dichlorobenzene	1.1J	ug/m3	2.0	0.84	1.68		09/02/16 12:42	106-46-7	
2-Butanone (MEK)	3.5J	ug/m3	5.0	0.38	1.68		09/02/16 12:42	78-93-3	
2-Hexanone	7.7	ug/m3	7.0	0.69	1.68		09/02/16 12:42	591-78-6	
2-Propanol	37.2	ug/m3	4.2	0.40	1.68		09/02/16 12:42	67-63-0	CH
4-Ethyltoluene	1.1J	ug/m3	1.7	0.32	1.68		09/02/16 12:42	622-96-8	
4-Methyl-2-pentanone (MIBK)	5.7J	ug/m3	7.0	0.36	1.68		09/02/16 12:42	108-10-1	
Acetone	36.3	ug/m3	4.1	1.4	1.68		09/02/16 12:42	67-64-1	
Benzene	0.59	ug/m3	0.55	0.20	1.68		09/02/16 12:42	71-43-2	
Benzyl chloride	<0.28	ug/m3	1.8	0.28	1.68		09/02/16 12:42	100-44-7	
Bromodichloromethane	1.5J	ug/m3	2.3	0.33	1.68		09/02/16 12:42	75-27-4	
Bromoform	4.0J	ug/m3	8.8	1.5	1.68		09/02/16 12:42	75-25-2	
Bromomethane	1.2J	ug/m3	1.3	0.52	1.68		09/02/16 12:42	74-83-9	
Carbon disulfide	0.68J	ug/m3	1.1	0.17	1.68		09/02/16 12:42	75-15-0	
Carbon tetrachloride	2.5	ug/m3	1.1	0.32	1.68		09/02/16 12:42	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.68		09/02/16 12:42	108-90-7	
Chloroethane	<0.33	ug/m3	0.91	0.33	1.68		09/02/16 12:42	75-00-3	
Chloroform	0.49J	ug/m3	0.83	0.32	1.68		09/02/16 12:42	67-66-3	
Chloromethane	1.5	ug/m3	0.71	0.18	1.68		09/02/16 12:42	74-87-3	
Cyclohexane	1.2	ug/m3	1.2	0.53	1.68		09/02/16 12:42	110-82-7	
Dibromochloromethane	1.9J	ug/m3	2.9	1.4	1.68		09/02/16 12:42	124-48-1	
Dichlorodifluoromethane	1.8	ug/m3	1.7	0.81	1.68		09/02/16 12:42	75-71-8	
Dichlorotetrafluoroethane	<0.52	ug/m3	2.4	0.52	1.68		09/02/16 12:42	76-14-2	
Ethanol	642	ug/m3	3.2	0.45	1.68		09/02/16 12:42	64-17-5	E
Ethyl acetate	5.6	ug/m3	1.2	0.58	1.68		09/02/16 12:42	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.6	1.1	1.68		09/02/16 12:42	87-68-3	
Methyl-tert-butyl ether	9.5	ug/m3	6.2	0.51	1.68		09/02/16 12:42	1634-04-4	CH
Methylene Chloride	4.9J	ug/m3	5.9	0.91	1.68		09/02/16 12:42	75-09-2	B
Naphthalene	24.7	ug/m3	4.5	0.51	1.68		09/02/16 12:42	91-20-3	
Propylene	<0.23	ug/m3	0.59	0.23	1.68		09/02/16 12:42	115-07-1	
Styrene	2.5J	ug/m3	3.6	0.32	1.68		09/02/16 12:42	100-42-5	
Tetrachloroethene	1.1J	ug/m3	1.2	0.47	1.68		09/02/16 12:42	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Sample: IA1-15608P-20160830 **Lab ID: 10361247004** Collected: 08/31/16 10:55 Received: 09/01/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	0.54J	ug/m3	1.0	0.20	1.68		09/02/16 12:42	109-99-9	
Toluene	2.9	ug/m3	1.3	0.26	1.68		09/02/16 12:42	108-88-3	
Trichloroethene	1.0J	ug/m3	1.8	0.46	1.68		09/02/16 12:42	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	1.9	0.22	1.68		09/02/16 12:42	75-69-4	
Vinyl acetate	3.4	ug/m3	1.2	0.55	1.68		09/02/16 12:42	108-05-4	
Vinyl chloride	<0.33	ug/m3	0.44	0.33	1.68		09/02/16 12:42	75-01-4	
cis-1,2-Dichloroethene	<0.41	ug/m3	1.4	0.41	1.68		09/02/16 12:42	156-59-2	
cis-1,3-Dichloropropene	<0.62	ug/m3	1.5	0.62	1.68		09/02/16 12:42	10061-01-5	
m&p-Xylene	3.5	ug/m3	3.0	1.3	1.68		09/02/16 12:42	179601-23-1	
n-Heptane	1.3J	ug/m3	1.4	0.47	1.68		09/02/16 12:42	142-82-5	
n-Hexane	1.5	ug/m3	1.2	0.60	1.68		09/02/16 12:42	110-54-3	
o-Xylene	2.1J	ug/m3	3.7	0.59	1.68		09/02/16 12:42	95-47-6	
trans-1,2-Dichloroethene	<0.65	ug/m3	1.4	0.65	1.68		09/02/16 12:42	156-60-5	
trans-1,3-Dichloropropene	<0.44	ug/m3	3.9	0.44	1.68		09/02/16 12:42	10061-02-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

QC Batch: 433939 Analysis Method: TO-15
 QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
 Associated Lab Samples: 10361247001, 10361247002, 10361247003, 10361247004

METHOD BLANK: 2359657 Matrix: Air
 Associated Lab Samples: 10361247001, 10361247002, 10361247003, 10361247004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.25	2.8	0.25	09/02/16 09:43	
1,1,2,2-Tetrachloroethane	ug/m3	<0.33	1.4	0.33	09/02/16 09:43	
1,1,2-Trichloroethane	ug/m3	<0.25	1.1	0.25	09/02/16 09:43	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.30	1.6	0.30	09/02/16 09:43	
1,1-Dichloroethane	ug/m3	<0.16	0.82	0.16	09/02/16 09:43	
1,1-Dichloroethene	ug/m3	<0.24	0.81	0.24	09/02/16 09:43	
1,2,4-Trichlorobenzene	ug/m3	<0.91	3.8	0.91	09/02/16 09:43	
1,2,4-Trimethylbenzene	ug/m3	<0.12	1.0	0.12	09/02/16 09:43	
1,2-Dibromoethane (EDB)	ug/m3	<0.77	1.6	0.77	09/02/16 09:43	
1,2-Dichlorobenzene	ug/m3	<0.51	1.2	0.51	09/02/16 09:43	
1,2-Dichloroethane	ug/m3	<0.20	2.1	0.20	09/02/16 09:43	
1,2-Dichloropropane	ug/m3	<0.27	0.94	0.27	09/02/16 09:43	
1,3,5-Trimethylbenzene	ug/m3	<0.18	1.0	0.18	09/02/16 09:43	
1,3-Butadiene	ug/m3	<0.18	0.45	0.18	09/02/16 09:43	
1,3-Dichlorobenzene	ug/m3	<0.53	3.1	0.53	09/02/16 09:43	
1,4-Dichlorobenzene	ug/m3	<0.50	1.2	0.50	09/02/16 09:43	
2-Butanone (MEK)	ug/m3	<0.23	3.0	0.23	09/02/16 09:43	
2-Hexanone	ug/m3	<0.41	4.2	0.41	09/02/16 09:43	
2-Propanol	ug/m3	<0.24	2.5	0.24	09/02/16 09:43	
4-Ethyltoluene	ug/m3	<0.19	1.0	0.19	09/02/16 09:43	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.22	4.2	0.22	09/02/16 09:43	
Acetone	ug/m3	<0.83	2.4	0.83	09/02/16 09:43	
Benzene	ug/m3	<0.12	0.32	0.12	09/02/16 09:43	
Benzyl chloride	ug/m3	<0.17	1.0	0.17	09/02/16 09:43	
Bromodichloromethane	ug/m3	<0.19	1.4	0.19	09/02/16 09:43	
Bromoform	ug/m3	<0.90	5.3	0.90	09/02/16 09:43	
Bromomethane	ug/m3	<0.31	0.79	0.31	09/02/16 09:43	
Carbon disulfide	ug/m3	<0.10	0.63	0.10	09/02/16 09:43	
Carbon tetrachloride	ug/m3	<0.19	0.64	0.19	09/02/16 09:43	
Chlorobenzene	ug/m3	<0.13	0.94	0.13	09/02/16 09:43	
Chloroethane	ug/m3	<0.19	0.54	0.19	09/02/16 09:43	
Chloroform	ug/m3	<0.19	0.50	0.19	09/02/16 09:43	
Chloromethane	ug/m3	<0.11	0.42	0.11	09/02/16 09:43	
cis-1,2-Dichloroethene	ug/m3	<0.25	0.81	0.25	09/02/16 09:43	
cis-1,3-Dichloropropene	ug/m3	<0.37	0.92	0.37	09/02/16 09:43	
Cyclohexane	ug/m3	<0.32	0.70	0.32	09/02/16 09:43	
Dibromochloromethane	ug/m3	<0.86	1.7	0.86	09/02/16 09:43	
Dichlorodifluoromethane	ug/m3	<0.48	1.0	0.48	09/02/16 09:43	
Dichlorotetrafluoroethane	ug/m3	<0.31	1.4	0.31	09/02/16 09:43	
Ethanol	ug/m3	<0.26	1.9	0.26	09/02/16 09:43	
Ethyl acetate	ug/m3	<0.35	0.73	0.35	09/02/16 09:43	

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

METHOD BLANK: 2359657

Matrix: Air

Associated Lab Samples: 10361247001, 10361247002, 10361247003, 10361247004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/m3	<0.65	2.2	0.65	09/02/16 09:43	
m&p-Xylene	ug/m3	<0.79	1.8	0.79	09/02/16 09:43	
Methyl-tert-butyl ether	ug/m3	<0.30	3.7	0.30	09/02/16 09:43	
Methylene Chloride	ug/m3	6.9	3.5	0.54	09/02/16 09:43	B
n-Heptane	ug/m3	<0.28	0.83	0.28	09/02/16 09:43	
n-Hexane	ug/m3	<0.36	0.72	0.36	09/02/16 09:43	
Naphthalene	ug/m3	<0.30	2.7	0.30	09/02/16 09:43	
o-Xylene	ug/m3	<0.35	2.2	0.35	09/02/16 09:43	
Propylene	ug/m3	<0.14	0.35	0.14	09/02/16 09:43	
Styrene	ug/m3	<0.19	2.2	0.19	09/02/16 09:43	
Tetrachloroethene	ug/m3	<0.28	0.69	0.28	09/02/16 09:43	
Tetrahydrofuran	ug/m3	<0.12	0.60	0.12	09/02/16 09:43	
Toluene	ug/m3	<0.15	0.77	0.15	09/02/16 09:43	
trans-1,2-Dichloroethene	ug/m3	<0.38	0.81	0.38	09/02/16 09:43	
trans-1,3-Dichloropropene	ug/m3	<0.26	2.3	0.26	09/02/16 09:43	
Trichloroethene	ug/m3	<0.28	1.1	0.28	09/02/16 09:43	
Trichlorofluoromethane	ug/m3	<0.13	1.1	0.13	09/02/16 09:43	
Vinyl acetate	ug/m3	<0.33	0.72	0.33	09/02/16 09:43	
Vinyl chloride	ug/m3	<0.20	0.26	0.20	09/02/16 09:43	

LABORATORY CONTROL SAMPLE: 2359658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	57.2	103	60-143	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	78.9	113	49-150	
1,1,2-Trichloroethane	ug/m3	55.5	62.1	112	57-149	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	88.8	114	66-131	
1,1-Dichloroethane	ug/m3	41.2	46.9	114	62-139	
1,1-Dichloroethene	ug/m3	40.3	50.6	125	62-135	
1,2,4-Trichlorobenzene	ug/m3	75.5	65.9	87	55-146	
1,2,4-Trimethylbenzene	ug/m3	50	55.4	111	57-143	
1,2-Dibromoethane (EDB)	ug/m3	78.1	84.0	108	63-150	
1,2-Dichlorobenzene	ug/m3	61.2	65.6	107	57-141	
1,2-Dichloroethane	ug/m3	41.2	42.8	104	61-144	
1,2-Dichloropropane	ug/m3	47	56.7	121	63-144	
1,3,5-Trimethylbenzene	ug/m3	50	55.3	111	54-147	
1,3-Butadiene	ug/m3	22.5	26.6	118	61-140	
1,3-Dichlorobenzene	ug/m3	61.2	58.9	96	51-150	
1,4-Dichlorobenzene	ug/m3	61.2	67.8	111	57-143	
2-Butanone (MEK)	ug/m3	30	33.7	112	66-144	
2-Hexanone	ug/m3	104	115	111	63-147	
2-Propanol	ug/m3	125	166	133	54-146	CH
4-Ethyltoluene	ug/m3	50	56.9	114	56-150	
4-Methyl-2-pentanone (MIBK)	ug/m3	104	124	119	58-150	

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

LABORATORY CONTROL SAMPLE: 2359658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/m3	121	142	118	46-140	
Benzene	ug/m3	32.5	39.5	122	62-141	
Benzyl chloride	ug/m3	52.5	55.2	105	66-138	
Bromodichloromethane	ug/m3	68.2	76.7	113	58-149	
Bromoform	ug/m3	105	111	106	61-150	
Bromomethane	ug/m3	39.5	45.1	114	58-136	
Carbon disulfide	ug/m3	31.7	36.3	115	59-135	
Carbon tetrachloride	ug/m3	64	69.8	109	60-149	
Chlorobenzene	ug/m3	46.8	53.7	115	60-150	
Chloroethane	ug/m3	26.8	31.6	118	61-136	
Chloroform	ug/m3	49.7	63.5	128	65-138	
Chloromethane	ug/m3	21	26.7	127	62-133	
cis-1,2-Dichloroethene	ug/m3	40.3	44.1	109	65-139	
cis-1,3-Dichloropropene	ug/m3	46.2	53.1	115	61-149	
Cyclohexane	ug/m3	35	42.4	121	64-134	
Dibromochloromethane	ug/m3	86.6	93.1	107	59-150	
Dichlorodifluoromethane	ug/m3	50.3	61.7	123	63-134	
Dichlorotetrafluoroethane	ug/m3	71.1	90.1	127	62-134	
Ethanol	ug/m3	95.8	114	119	50-144	
Ethyl acetate	ug/m3	36.6	40.8	111	55-146	
Hexachloro-1,3-butadiene	ug/m3	108	115	106	42-150	
m&p-Xylene	ug/m3	88.3	98.3	111	59-146	
Methyl-tert-butyl ether	ug/m3	91.6	119	130	64-135	CH
Methylene Chloride	ug/m3	177	195	110	64-128	B
n-Heptane	ug/m3	41.7	51.6	124	64-140	
n-Hexane	ug/m3	35.8	42.5	119	50-138	
Naphthalene	ug/m3	53.3	51.6	97	46-146	
o-Xylene	ug/m3	44.2	48.0	109	54-149	
Propylene	ug/m3	17.5	23.1	132	58-135	CH
Styrene	ug/m3	43.3	46.9	108	54-150	
Tetrachloroethene	ug/m3	69	76.0	110	60-142	
Tetrahydrofuran	ug/m3	30	36.0	120	56-143	
Toluene	ug/m3	38.3	43.5	113	61-138	
trans-1,2-Dichloroethene	ug/m3	40.3	46.4	115	67-137	
trans-1,3-Dichloropropene	ug/m3	46.2	51.2	111	59-145	
Trichloroethene	ug/m3	54.6	61.7	113	60-144	
Trichlorofluoromethane	ug/m3	57.1	67.7	118	59-134	
Vinyl acetate	ug/m3	35.8	41.8	117	55-143	
Vinyl chloride	ug/m3	26	34.9	134	63-135	CH

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10361247

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10361247001	OA1-15710P-20160830	TO-15	433939		
10361247002	IA1-15710P-20160830	TO-15	433939		
10361247003	OA1-15608P-20160830	TO-15	433939		
10361247004	IA1-15608P-20160830	TO-15	433939		

REPORT OF LABORATORY ANALYSIS

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

10360247

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: **Company:** VPR - Gary Honeyman **Address:** 221 Hodgeman Laramie WY **Report To:** CH2M **Copy To:** Steve Demus **Mike Nemet**
 Section B Required Project Information: **Report To:** CH2M **Copy To:** Steve Demus **Mike Nemet**
 Section C Invoice Information: **Attention:** Gary Honeyman **Company Name:** Gary Honeyman **Address:** **Page Quote Reference:** **Face Project Manager/Sales Rep:** Jennifer Gross **Face Profile #:**

Requested Due Date/TAT: 24-HR
 Phone: **Project Name:** Freeman WA - Cenz Harvest **Project Number:** Lease Site
 Email To: **Purchase Order No.:** **Address:** 221 Hodgeman Laramie WY
 Company: VPR - Gary Honeyman **Report To:** CH2M **Copy To:** Steve Demus **Mike Nemet**
 Valid Media Codes: MEDIA CODE TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC 15 Liter Summa Can 15LC 15 Liter Volume Puff HVP 15 Liter Volume Puff FM10 Other
Section D Required Client Information
AIR SAMPLE ID
 Sample IDs MUST BE UNIQUE
COLLECTED
 MEDIA CODE
 PID Reading (Client only)
 COMPOSITE - DATE TIME
 COMPOSITE - DATE TIME
 Canister Pressure (Initial Field - psi/g)
 Canister Pressure (Final Field - psi/g)
 Summa Can Number
 Flow Control Number
 Method:
 PM10
 3c-Fixed Gas (%)
 TO-3
 TO-3M (Methane)
 TO-4 (PCBs)
 TO-13 (PAH)
 TO-14
 TO-15 - SIM
 TO-16 Short List*
 Reporting Units: ug/m³ mg/m³ PPBV PPMV Other
 Location of Sampling by State: WA
 Report Level: I. II. III. IV. Other
 Program: UST Superfund Emissions Clean Air Act Voluntary Clean Up Dry Clean RCRA Other
 Page: 1 of 1

ITEM #	AIR SAMPLE ID	Valid Media Codes	MEDIA CODE	PID Reading (Client only)	COLLECTED			Summa Can Number	Flow Control Number	Method	Page Lab ID
					COMPOSITE - DATE TIME	COMPOSITE - DATE TIME	COMPOSITE - DATE TIME				
1	CA1-15710P-20160830	6LC	6LC	8-30-16 1239	8-31-16 1047	265-4	1688	FC0268	X	001	
2	IA1-15710P-20160830	6LC	6LC	8-30-16 1235	8-31-16 1056	26-5	707	FC0437	X	002	
3	CA1-15608P-20160830	6LC	6LC	8-30-16 1243	8-31-16 1050	28-5	1649	FC0339	X	003	
4	IA1-15608P-20160830	6LC	6LC	8-30-16 1249	8-31-16 1055	27-85-343	1614	FC0301	X	004	

Comments: - Full VOC List - 24-HR TAT.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples In tact
Becky Rewey / CH2M	8-31-16	1230	Hypoc Rain	9/2/16	10:00			Y/N	Y/N	Y/N
Becky Rewey / CH2M	8-31-16	1230	Hypoc Rain	9/2/16	10:00			Y/N	Y/N	Y/N
Becky Rewey / CH2M	8-31-16	1230	Hypoc Rain	9/2/16	10:00			Y/N	Y/N	Y/N
Becky Rewey / CH2M	8-31-16	1230	Hypoc Rain	9/2/16	10:00			Y/N	Y/N	Y/N
Becky Rewey / CH2M	8-31-16	1230	Hypoc Rain	9/2/16	10:00			Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE: _____
 PRINT Name of SAMPLER: _____
 SIGNATURE of SAMPLER: _____
 DATE Signed (MM/DD/YY): 08/31/16

ORIGINAL

Air Sample Condition Upon Receipt

Client Name: UPRR

Project #:

JO#: **10361247**

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other: _____



Tracking Number: 810103985123

10361247

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____

Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): Corrected Temp (°C):

Thermom. Used: B88A912167504 151401163
 B88A0143310098 151401164

Temp should be above freezing to 6°C Correction Factor:

Date & Initials of Person Examining Contents: 9/2/16 AMP

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7. <u>24 hr</u>
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.

Samples Received:			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID
10361247-001	PACE1688	FC0268			
10361247-002	PACE0707	FC0437			
10361247-003	PACE1649	FC0339			
10361247-004	PACE1614	FC0301			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: Samples were received on 09/01/16 at 10:00am

Project Manager Review:

JENNI GROSS

Date: 09/02/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Air Sample Condition Upon Receipt Client Name: CH2M Project #: _____

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other: _____

Tracking Number: 810103985075

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____ Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): _____ Corrected Temp (°C): _____ Thermom. Used: B88A912167504 B88A0143310098 151401163 151401164

Temp should be above freezing to 6°C Correction Factor: _____ Date & Initials of Person Examining Contents: 9-1-16 mZ

Type of ice Received Blue Wet None

			Comments:
Chain of Custody Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Chain of Custody Filled Out?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		7.
Sufficient Volume?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		8.
Correct Containers Used? -Pace Containers Used?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9. Sample IAI-156080-20160830 had NO COC. Amp Date: Aug 30-31 2016
Containers Intact?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Media: Air Can Airbag Filter TDT Passive			11.
Sample Labels Match COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		12.

Samples Received:					
Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID
	0190	0121			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: Mike Niemet Date/Time: 09/02/16

Comments/Resolution: Summa was a return can, for cleaning only.

Project Manager Review: JENNI GROSS Date: 09/02/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

September 13, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

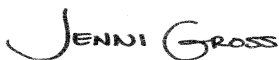
RE: Project: UPRR Freeman
Pace Project No.: 10361993

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Mike Niemet, CH2M Hill
Mark Ochsner, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR Freeman

Pace Project No.: 10361993

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: UPRR Freeman

Pace Project No.: 10361993

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10361993001	LANG-090816	Water	09/08/16 15:15	09/10/16 09:45
10361993002	LASHA-AG-090816	Water	09/08/16 16:00	09/10/16 09:45
10361993003	SILVA-090816	Water	09/08/16 16:15	09/10/16 09:45
10361993004	DAVEY-090816	Water	09/08/16 16:45	09/10/16 09:45
10361993005	MARLOW-090816	Water	09/08/16 17:00	09/10/16 09:45
10361993006	RANDALL-090816	Water	09/08/16 17:15	09/10/16 09:45

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SAMPLE ANALYTE COUNT

Project: UPRR Freeman

Pace Project No.: 10361993

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10361993001	LANG-090816	EPA 524.2	DJB	73	PASI-M
10361993002	LASHA-AG-090816	EPA 524.2	DJB	73	PASI-M
10361993003	SILVA-090816	EPA 524.2	DJB	73	PASI-M
10361993004	DAVEY-090816	EPA 524.2	DJB	73	PASI-M
10361993005	MARLOW-090816	EPA 524.2	DJB	73	PASI-M
10361993006	RANDALL-090816	EPA 524.2	DJB	73	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR Freeman

Pace Project No.: 10361993

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10361993001	LANG-090816					
EPA 524.2	2-Butanone (MEK)	3.1J	ug/L	5.0	09/13/16 02:04	
EPA 524.2	2-Hexanone	0.87J	ug/L	5.0	09/13/16 02:04	
EPA 524.2	Acetone	21.8	ug/L	20.0	09/13/16 02:04	
EPA 524.2	Bromodichloromethane	8.2	ug/L	1.0	09/13/16 02:04	
EPA 524.2	Carbon disulfide	1.3	ug/L	1.0	09/13/16 02:04	
EPA 524.2	Carbon tetrachloride	0.16J	ug/L	1.0	09/13/16 02:04	
EPA 524.2	Chloroethane	0.77J	ug/L	1.0	09/13/16 02:04	
EPA 524.2	Chloroform	220	ug/L	1.0	09/13/16 02:04	M1
EPA 524.2	Chloromethane	2.1J	ug/L	4.0	09/13/16 02:04	M1
EPA 524.2	Dibromochloromethane	0.91	ug/L	0.50	09/13/16 02:04	
EPA 524.2	Methylene Chloride	5.8	ug/L	4.0	09/13/16 02:04	
10361993002	LASHA-AG-090816					
EPA 524.2	Carbon tetrachloride	9.1	ug/L	1.0	09/13/16 02:26	
EPA 524.2	Chloroform	1.7	ug/L	1.0	09/13/16 02:26	
10361993004	DAVEY-090816					
EPA 524.2	Carbon tetrachloride	22.3	ug/L	1.0	09/13/16 03:33	
EPA 524.2	Chloroform	5.8	ug/L	1.0	09/13/16 03:33	
10361993005	MARLOW-090816					
EPA 524.2	2-Butanone (MEK)	2.8J	ug/L	5.0	09/13/16 03:56	
EPA 524.2	Carbon disulfide	2.8	ug/L	1.0	09/13/16 03:56	
EPA 524.2	Carbon tetrachloride	109	ug/L	1.0	09/13/16 03:56	
EPA 524.2	Chloroform	7.8	ug/L	1.0	09/13/16 03:56	
EPA 524.2	Tetrahydrofuran	11.7	ug/L	10.0	09/13/16 03:56	
10361993006	RANDALL-090816					
EPA 524.2	Carbon disulfide	0.52J	ug/L	1.0	09/13/16 04:18	
EPA 524.2	Carbon tetrachloride	332	ug/L	5.0	09/13/16 14:05	
EPA 524.2	Chloroform	14.6	ug/L	1.0	09/13/16 04:18	
EPA 524.2	Toluene	0.10J	ug/L	0.50	09/13/16 04:18	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman
Pace Project No.: 10361993

Method: EPA 524.2
Description: 524.2 MSV
Client: UPRR_CH2M Hill
Date: September 13, 2016

General Information:

6 samples were analyzed for EPA 524.2. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 435239

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 435239

1M: Post analysis detected residual chlorine

- LANG-090816 (Lab ID: 10361993001)
 - 4-Bromofluorobenzene (S)
- MS (Lab ID: 2365712)
 - 4-Bromofluorobenzene (S)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman
Pace Project No.: 10361993

Method: EPA 524.2
Description: 524.2 MSV
Client: UPRR_CH2M Hill
Date: September 13, 2016

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: **LANG-090816** Lab ID: **10361993001** Collected: 09/08/16 15:15 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
1,1,1,2-Tetrachloroethane	<0.062	ug/L	0.50	0.062	1		09/13/16 02:04	630-20-6	
1,1,1-Trichloroethane	<0.10	ug/L	0.50	0.10	1		09/13/16 02:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.11	ug/L	0.50	0.11	1		09/13/16 02:04	79-34-5	
1,1,2-Trichloroethane	<0.098	ug/L	0.50	0.098	1		09/13/16 02:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.0J	ug/L	1.0		1		09/13/16 02:04	76-13-1	
1,1-Dichloroethane	<0.088	ug/L	0.50	0.088	1		09/13/16 02:04	75-34-3	
1,1-Dichloroethene	<0.089	ug/L	0.50	0.089	1		09/13/16 02:04	75-35-4	M1
1,1-Dichloropropene	<0.080	ug/L	0.50	0.080	1		09/13/16 02:04	563-58-6	M1
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 02:04	87-61-6	
1,2,3-Trichloropropane	<0.073	ug/L	4.0	0.073	1		09/13/16 02:04	96-18-4	
1,2,4-Trichlorobenzene	<0.12	ug/L	0.50	0.12	1		09/13/16 02:04	120-82-1	
1,2,4-Trimethylbenzene	<0.083	ug/L	0.50	0.083	1		09/13/16 02:04	95-63-6	M1
1,2-Dibromo-3-chloropropane	<0.18	ug/L	4.0	0.18	1		09/13/16 02:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.091	ug/L	0.50	0.091	1		09/13/16 02:04	106-93-4	
1,2-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 02:04	95-50-1	
1,2-Dichloroethane	<0.092	ug/L	0.50	0.092	1		09/13/16 02:04	107-06-2	
1,2-Dichloropropane	<0.084	ug/L	4.0	0.084	1		09/13/16 02:04	78-87-5	
1,3,5-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		09/13/16 02:04	108-67-8	M1
1,3-Dichlorobenzene	<0.082	ug/L	0.50	0.082	1		09/13/16 02:04	541-73-1	
1,3-Dichloropropane	<0.094	ug/L	0.50	0.094	1		09/13/16 02:04	142-28-9	
1,4-Dichlorobenzene	<0.075	ug/L	0.50	0.075	1		09/13/16 02:04	106-46-7	
2,2-Dichloropropane	<0.097	ug/L	1.0	0.097	1		09/13/16 02:04	594-20-7	
2-Butanone (MEK)	3.1J	ug/L	5.0	0.19	1		09/13/16 02:04	78-93-3	
2-Chlorotoluene	<0.11	ug/L	0.50	0.11	1		09/13/16 02:04	95-49-8	
2-Hexanone	0.87J	ug/L	5.0	0.19	1		09/13/16 02:04	591-78-6	
4-Chlorotoluene	<0.10	ug/L	0.50	0.10	1		09/13/16 02:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/L	5.0	0.34	1		09/13/16 02:04	108-10-1	
Acetone	21.8	ug/L	20.0	1.9	1		09/13/16 02:04	67-64-1	
Acrylonitrile	<0.28	ug/L	10.0	0.28	1		09/13/16 02:04	107-13-1	
Benzene	<0.086	ug/L	0.50	0.086	1		09/13/16 02:04	71-43-2	
Bromobenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 02:04	108-86-1	
Bromochloromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 02:04	74-97-5	
Bromodichloromethane	8.2	ug/L	1.0	0.090	1		09/13/16 02:04	75-27-4	
Bromoform	<0.23	ug/L	4.0	0.23	1		09/13/16 02:04	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		09/13/16 02:04	74-83-9	M1
Carbon disulfide	1.3	ug/L	1.0	0.042	1		09/13/16 02:04	75-15-0	
Carbon tetrachloride	0.16J	ug/L	1.0	0.076	1		09/13/16 02:04	56-23-5	
Chlorobenzene	<0.068	ug/L	0.50	0.068	1		09/13/16 02:04	108-90-7	
Chloroethane	0.77J	ug/L	1.0	0.18	1		09/13/16 02:04	75-00-3	
Chloroform	220	ug/L	1.0	0.10	1		09/13/16 02:04	67-66-3	M1
Chloromethane	2.1J	ug/L	4.0	0.21	1		09/13/16 02:04	74-87-3	M1
Dibromochloromethane	0.91	ug/L	0.50	0.13	1		09/13/16 02:04	124-48-1	
Dibromomethane	<0.098	ug/L	1.0	0.098	1		09/13/16 02:04	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 02:04	75-71-8	
Ethylbenzene	<0.051	ug/L	0.50	0.051	1		09/13/16 02:04	100-41-4	M1
Hexachloro-1,3-butadiene	<0.11	ug/L	4.0	0.11	1		09/13/16 02:04	87-68-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: LANG-090816 **Lab ID: 10361993001** Collected: 09/08/16 15:15 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Isopropylbenzene (Cumene)	<0.11	ug/L	0.50	0.11	1		09/13/16 02:04	98-82-8	M1
Methyl-tert-butyl ether	<0.058	ug/L	0.50	0.058	1		09/13/16 02:04	1634-04-4	
Methylene Chloride	5.8	ug/L	4.0	0.20	1		09/13/16 02:04	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		09/13/16 02:04	91-20-3	M1
Styrene	<0.075	ug/L	0.50	0.075	1		09/13/16 02:04	100-42-5	M1
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		09/13/16 02:04	127-18-4	
Tetrahydrofuran	<1.2	ug/L	10.0	1.2	1		09/13/16 02:04	109-99-9	
Toluene	<0.080	ug/L	0.50	0.080	1		09/13/16 02:04	108-88-3	M1
Trichloroethene	<0.044	ug/L	0.40	0.044	1		09/13/16 02:04	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 02:04	75-69-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		09/13/16 02:04	75-01-4	M1
Xylene (Total)	<0.073	ug/L	1.5	0.073	1		09/13/16 02:04	1330-20-7	MS
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		09/13/16 02:04	156-59-2	
cis-1,3-Dichloropropene	<0.071	ug/L	0.50	0.071	1		09/13/16 02:04	10061-01-5	M1
m&p-Xylene	<0.073	ug/L	1.0	0.073	1		09/13/16 02:04	179601-23-1	M1
n-Butylbenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 02:04	104-51-8	M1
n-Propylbenzene	<0.096	ug/L	0.50	0.096	1		09/13/16 02:04	103-65-1	M1
o-Xylene	<0.073	ug/L	0.50	0.073	1		09/13/16 02:04	95-47-6	M1
p-Isopropyltoluene	<0.083	ug/L	0.50	0.083	1		09/13/16 02:04	99-87-6	M1
sec-Butylbenzene	<0.063	ug/L	0.50	0.063	1		09/13/16 02:04	135-98-8	M1
tert-Butylbenzene	<0.097	ug/L	0.50	0.097	1		09/13/16 02:04	98-06-6	M1
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		09/13/16 02:04	156-60-5	
trans-1,3-Dichloropropene	<0.055	ug/L	0.50	0.055	1		09/13/16 02:04	10061-02-6	M1
trans-1,4-Dichloro-2-butene	<0.15	ug/L	10.0	0.15	1		09/13/16 02:04	110-57-6	M1
Surrogates									
4-Bromofluorobenzene (S)	99	%	75-125		1		09/13/16 02:04	460-00-4	1M
Toluene-d8 (S)	82	%	75-125		1		09/13/16 02:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/13/16 02:04	17060-07-0	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: LASHA-AG-090816 Lab ID: 10361993002 Collected: 09/08/16 16:00 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
1,1,1,2-Tetrachloroethane	<0.062	ug/L	0.50	0.062	1		09/13/16 02:26	630-20-6	
1,1,1-Trichloroethane	<0.10	ug/L	0.50	0.10	1		09/13/16 02:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.11	ug/L	0.50	0.11	1		09/13/16 02:26	79-34-5	
1,1,2-Trichloroethane	<0.098	ug/L	0.50	0.098	1		09/13/16 02:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.0J	ug/L	1.0		1		09/13/16 02:26	76-13-1	
1,1-Dichloroethane	<0.088	ug/L	0.50	0.088	1		09/13/16 02:26	75-34-3	
1,1-Dichloroethene	<0.089	ug/L	0.50	0.089	1		09/13/16 02:26	75-35-4	
1,1-Dichloropropene	<0.080	ug/L	0.50	0.080	1		09/13/16 02:26	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 02:26	87-61-6	
1,2,3-Trichloropropane	<0.073	ug/L	4.0	0.073	1		09/13/16 02:26	96-18-4	
1,2,4-Trichlorobenzene	<0.12	ug/L	0.50	0.12	1		09/13/16 02:26	120-82-1	
1,2,4-Trimethylbenzene	<0.083	ug/L	0.50	0.083	1		09/13/16 02:26	95-63-6	
1,2-Dibromo-3-chloropropane	<0.18	ug/L	4.0	0.18	1		09/13/16 02:26	96-12-8	
1,2-Dibromoethane (EDB)	<0.091	ug/L	0.50	0.091	1		09/13/16 02:26	106-93-4	
1,2-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 02:26	95-50-1	
1,2-Dichloroethane	<0.092	ug/L	0.50	0.092	1		09/13/16 02:26	107-06-2	
1,2-Dichloropropane	<0.084	ug/L	4.0	0.084	1		09/13/16 02:26	78-87-5	
1,3,5-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		09/13/16 02:26	108-67-8	
1,3-Dichlorobenzene	<0.082	ug/L	0.50	0.082	1		09/13/16 02:26	541-73-1	
1,3-Dichloropropane	<0.094	ug/L	0.50	0.094	1		09/13/16 02:26	142-28-9	
1,4-Dichlorobenzene	<0.075	ug/L	0.50	0.075	1		09/13/16 02:26	106-46-7	
2,2-Dichloropropane	<0.097	ug/L	1.0	0.097	1		09/13/16 02:26	594-20-7	
2-Butanone (MEK)	<0.19	ug/L	5.0	0.19	1		09/13/16 02:26	78-93-3	
2-Chlorotoluene	<0.11	ug/L	0.50	0.11	1		09/13/16 02:26	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		09/13/16 02:26	591-78-6	
4-Chlorotoluene	<0.10	ug/L	0.50	0.10	1		09/13/16 02:26	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/L	5.0	0.34	1		09/13/16 02:26	108-10-1	
Acetone	<1.9	ug/L	20.0	1.9	1		09/13/16 02:26	67-64-1	
Acrylonitrile	<0.28	ug/L	10.0	0.28	1		09/13/16 02:26	107-13-1	
Benzene	<0.086	ug/L	0.50	0.086	1		09/13/16 02:26	71-43-2	
Bromobenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 02:26	108-86-1	
Bromochloromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 02:26	74-97-5	
Bromodichloromethane	<0.090	ug/L	1.0	0.090	1		09/13/16 02:26	75-27-4	
Bromoform	<0.23	ug/L	4.0	0.23	1		09/13/16 02:26	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		09/13/16 02:26	74-83-9	
Carbon disulfide	<0.042	ug/L	1.0	0.042	1		09/13/16 02:26	75-15-0	
Carbon tetrachloride	9.1	ug/L	1.0	0.076	1		09/13/16 02:26	56-23-5	
Chlorobenzene	<0.068	ug/L	0.50	0.068	1		09/13/16 02:26	108-90-7	
Chloroethane	<0.18	ug/L	1.0	0.18	1		09/13/16 02:26	75-00-3	
Chloroform	1.7	ug/L	1.0	0.10	1		09/13/16 02:26	67-66-3	
Chloromethane	<0.21	ug/L	4.0	0.21	1		09/13/16 02:26	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 02:26	124-48-1	
Dibromomethane	<0.098	ug/L	1.0	0.098	1		09/13/16 02:26	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 02:26	75-71-8	
Ethylbenzene	<0.051	ug/L	0.50	0.051	1		09/13/16 02:26	100-41-4	
Hexachloro-1,3-butadiene	<0.11	ug/L	4.0	0.11	1		09/13/16 02:26	87-68-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: LASHA-AG-090816 **Lab ID: 10361993002** Collected: 09/08/16 16:00 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Isopropylbenzene (Cumene)	<0.11	ug/L	0.50	0.11	1		09/13/16 02:26	98-82-8	
Methyl-tert-butyl ether	<0.058	ug/L	0.50	0.058	1		09/13/16 02:26	1634-04-4	
Methylene Chloride	<0.20	ug/L	4.0	0.20	1		09/13/16 02:26	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		09/13/16 02:26	91-20-3	
Styrene	<0.075	ug/L	0.50	0.075	1		09/13/16 02:26	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		09/13/16 02:26	127-18-4	
Tetrahydrofuran	<1.2	ug/L	10.0	1.2	1		09/13/16 02:26	109-99-9	
Toluene	<0.080	ug/L	0.50	0.080	1		09/13/16 02:26	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		09/13/16 02:26	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 02:26	75-69-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		09/13/16 02:26	75-01-4	
Xylene (Total)	<0.073	ug/L	1.5	0.073	1		09/13/16 02:26	1330-20-7	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		09/13/16 02:26	156-59-2	
cis-1,3-Dichloropropene	<0.071	ug/L	0.50	0.071	1		09/13/16 02:26	10061-01-5	
m&p-Xylene	<0.073	ug/L	1.0	0.073	1		09/13/16 02:26	179601-23-1	
n-Butylbenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 02:26	104-51-8	
n-Propylbenzene	<0.096	ug/L	0.50	0.096	1		09/13/16 02:26	103-65-1	
o-Xylene	<0.073	ug/L	0.50	0.073	1		09/13/16 02:26	95-47-6	
p-Isopropyltoluene	<0.083	ug/L	0.50	0.083	1		09/13/16 02:26	99-87-6	
sec-Butylbenzene	<0.063	ug/L	0.50	0.063	1		09/13/16 02:26	135-98-8	
tert-Butylbenzene	<0.097	ug/L	0.50	0.097	1		09/13/16 02:26	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		09/13/16 02:26	156-60-5	
trans-1,3-Dichloropropene	<0.055	ug/L	0.50	0.055	1		09/13/16 02:26	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.15	ug/L	10.0	0.15	1		09/13/16 02:26	110-57-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	75-125		1		09/13/16 02:26	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		09/13/16 02:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		09/13/16 02:26	17060-07-0	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: **SILVA-090816** Lab ID: **10361993003** Collected: 09/08/16 16:15 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
1,1,1,2-Tetrachloroethane	<0.062	ug/L	0.50	0.062	1		09/13/16 03:11	630-20-6	
1,1,1-Trichloroethane	<0.10	ug/L	0.50	0.10	1		09/13/16 03:11	71-55-6	
1,1,2,2-Tetrachloroethane	<0.11	ug/L	0.50	0.11	1		09/13/16 03:11	79-34-5	
1,1,2-Trichloroethane	<0.098	ug/L	0.50	0.098	1		09/13/16 03:11	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.0J	ug/L	1.0		1		09/13/16 03:11	76-13-1	
1,1-Dichloroethane	<0.088	ug/L	0.50	0.088	1		09/13/16 03:11	75-34-3	
1,1-Dichloroethene	<0.089	ug/L	0.50	0.089	1		09/13/16 03:11	75-35-4	
1,1-Dichloropropene	<0.080	ug/L	0.50	0.080	1		09/13/16 03:11	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:11	87-61-6	
1,2,3-Trichloropropane	<0.073	ug/L	4.0	0.073	1		09/13/16 03:11	96-18-4	
1,2,4-Trichlorobenzene	<0.12	ug/L	0.50	0.12	1		09/13/16 03:11	120-82-1	
1,2,4-Trimethylbenzene	<0.083	ug/L	0.50	0.083	1		09/13/16 03:11	95-63-6	
1,2-Dibromo-3-chloropropane	<0.18	ug/L	4.0	0.18	1		09/13/16 03:11	96-12-8	
1,2-Dibromoethane (EDB)	<0.091	ug/L	0.50	0.091	1		09/13/16 03:11	106-93-4	
1,2-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:11	95-50-1	
1,2-Dichloroethane	<0.092	ug/L	0.50	0.092	1		09/13/16 03:11	107-06-2	
1,2-Dichloropropane	<0.084	ug/L	4.0	0.084	1		09/13/16 03:11	78-87-5	
1,3,5-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		09/13/16 03:11	108-67-8	
1,3-Dichlorobenzene	<0.082	ug/L	0.50	0.082	1		09/13/16 03:11	541-73-1	
1,3-Dichloropropane	<0.094	ug/L	0.50	0.094	1		09/13/16 03:11	142-28-9	
1,4-Dichlorobenzene	<0.075	ug/L	0.50	0.075	1		09/13/16 03:11	106-46-7	
2,2-Dichloropropane	<0.097	ug/L	1.0	0.097	1		09/13/16 03:11	594-20-7	
2-Butanone (MEK)	<0.19	ug/L	5.0	0.19	1		09/13/16 03:11	78-93-3	
2-Chlorotoluene	<0.11	ug/L	0.50	0.11	1		09/13/16 03:11	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		09/13/16 03:11	591-78-6	
4-Chlorotoluene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:11	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/L	5.0	0.34	1		09/13/16 03:11	108-10-1	
Acetone	<1.9	ug/L	20.0	1.9	1		09/13/16 03:11	67-64-1	
Acrylonitrile	<0.28	ug/L	10.0	0.28	1		09/13/16 03:11	107-13-1	
Benzene	<0.086	ug/L	0.50	0.086	1		09/13/16 03:11	71-43-2	
Bromobenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 03:11	108-86-1	
Bromochloromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 03:11	74-97-5	
Bromodichloromethane	<0.090	ug/L	1.0	0.090	1		09/13/16 03:11	75-27-4	
Bromoform	<0.23	ug/L	4.0	0.23	1		09/13/16 03:11	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		09/13/16 03:11	74-83-9	
Carbon disulfide	<0.042	ug/L	1.0	0.042	1		09/13/16 03:11	75-15-0	
Carbon tetrachloride	<0.076	ug/L	1.0	0.076	1		09/13/16 03:11	56-23-5	
Chlorobenzene	<0.068	ug/L	0.50	0.068	1		09/13/16 03:11	108-90-7	
Chloroethane	<0.18	ug/L	1.0	0.18	1		09/13/16 03:11	75-00-3	
Chloroform	<0.10	ug/L	1.0	0.10	1		09/13/16 03:11	67-66-3	
Chloromethane	<0.21	ug/L	4.0	0.21	1		09/13/16 03:11	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 03:11	124-48-1	
Dibromomethane	<0.098	ug/L	1.0	0.098	1		09/13/16 03:11	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 03:11	75-71-8	
Ethylbenzene	<0.051	ug/L	0.50	0.051	1		09/13/16 03:11	100-41-4	
Hexachloro-1,3-butadiene	<0.11	ug/L	4.0	0.11	1		09/13/16 03:11	87-68-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: SILVA-090816 **Lab ID: 10361993003** Collected: 09/08/16 16:15 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Isopropylbenzene (Cumene)	<0.11	ug/L	0.50	0.11	1		09/13/16 03:11	98-82-8	
Methyl-tert-butyl ether	<0.058	ug/L	0.50	0.058	1		09/13/16 03:11	1634-04-4	
Methylene Chloride	<0.20	ug/L	4.0	0.20	1		09/13/16 03:11	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		09/13/16 03:11	91-20-3	
Styrene	<0.075	ug/L	0.50	0.075	1		09/13/16 03:11	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		09/13/16 03:11	127-18-4	
Tetrahydrofuran	<1.2	ug/L	10.0	1.2	1		09/13/16 03:11	109-99-9	
Toluene	<0.080	ug/L	0.50	0.080	1		09/13/16 03:11	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		09/13/16 03:11	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 03:11	75-69-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		09/13/16 03:11	75-01-4	
Xylene (Total)	<0.073	ug/L	1.5	0.073	1		09/13/16 03:11	1330-20-7	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		09/13/16 03:11	156-59-2	
cis-1,3-Dichloropropene	<0.071	ug/L	0.50	0.071	1		09/13/16 03:11	10061-01-5	
m&p-Xylene	<0.073	ug/L	1.0	0.073	1		09/13/16 03:11	179601-23-1	
n-Butylbenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 03:11	104-51-8	
n-Propylbenzene	<0.096	ug/L	0.50	0.096	1		09/13/16 03:11	103-65-1	
o-Xylene	<0.073	ug/L	0.50	0.073	1		09/13/16 03:11	95-47-6	
p-Isopropyltoluene	<0.083	ug/L	0.50	0.083	1		09/13/16 03:11	99-87-6	
sec-Butylbenzene	<0.063	ug/L	0.50	0.063	1		09/13/16 03:11	135-98-8	
tert-Butylbenzene	<0.097	ug/L	0.50	0.097	1		09/13/16 03:11	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		09/13/16 03:11	156-60-5	
trans-1,3-Dichloropropene	<0.055	ug/L	0.50	0.055	1		09/13/16 03:11	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.15	ug/L	10.0	0.15	1		09/13/16 03:11	110-57-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	75-125		1		09/13/16 03:11	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		09/13/16 03:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		09/13/16 03:11	17060-07-0	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: **DAVEY-090816** Lab ID: **10361993004** Collected: 09/08/16 16:45 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
1,1,1,2-Tetrachloroethane	<0.062	ug/L	0.50	0.062	1		09/13/16 03:33	630-20-6	
1,1,1-Trichloroethane	<0.10	ug/L	0.50	0.10	1		09/13/16 03:33	71-55-6	
1,1,2,2-Tetrachloroethane	<0.11	ug/L	0.50	0.11	1		09/13/16 03:33	79-34-5	
1,1,2-Trichloroethane	<0.098	ug/L	0.50	0.098	1		09/13/16 03:33	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.0J	ug/L	1.0		1		09/13/16 03:33	76-13-1	
1,1-Dichloroethane	<0.088	ug/L	0.50	0.088	1		09/13/16 03:33	75-34-3	
1,1-Dichloroethene	<0.089	ug/L	0.50	0.089	1		09/13/16 03:33	75-35-4	
1,1-Dichloropropene	<0.080	ug/L	0.50	0.080	1		09/13/16 03:33	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:33	87-61-6	
1,2,3-Trichloropropane	<0.073	ug/L	4.0	0.073	1		09/13/16 03:33	96-18-4	
1,2,4-Trichlorobenzene	<0.12	ug/L	0.50	0.12	1		09/13/16 03:33	120-82-1	
1,2,4-Trimethylbenzene	<0.083	ug/L	0.50	0.083	1		09/13/16 03:33	95-63-6	
1,2-Dibromo-3-chloropropane	<0.18	ug/L	4.0	0.18	1		09/13/16 03:33	96-12-8	
1,2-Dibromoethane (EDB)	<0.091	ug/L	0.50	0.091	1		09/13/16 03:33	106-93-4	
1,2-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:33	95-50-1	
1,2-Dichloroethane	<0.092	ug/L	0.50	0.092	1		09/13/16 03:33	107-06-2	
1,2-Dichloropropane	<0.084	ug/L	4.0	0.084	1		09/13/16 03:33	78-87-5	
1,3,5-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		09/13/16 03:33	108-67-8	
1,3-Dichlorobenzene	<0.082	ug/L	0.50	0.082	1		09/13/16 03:33	541-73-1	
1,3-Dichloropropane	<0.094	ug/L	0.50	0.094	1		09/13/16 03:33	142-28-9	
1,4-Dichlorobenzene	<0.075	ug/L	0.50	0.075	1		09/13/16 03:33	106-46-7	
2,2-Dichloropropane	<0.097	ug/L	1.0	0.097	1		09/13/16 03:33	594-20-7	
2-Butanone (MEK)	<0.19	ug/L	5.0	0.19	1		09/13/16 03:33	78-93-3	
2-Chlorotoluene	<0.11	ug/L	0.50	0.11	1		09/13/16 03:33	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		09/13/16 03:33	591-78-6	
4-Chlorotoluene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:33	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/L	5.0	0.34	1		09/13/16 03:33	108-10-1	
Acetone	<1.9	ug/L	20.0	1.9	1		09/13/16 03:33	67-64-1	
Acrylonitrile	<0.28	ug/L	10.0	0.28	1		09/13/16 03:33	107-13-1	
Benzene	<0.086	ug/L	0.50	0.086	1		09/13/16 03:33	71-43-2	
Bromobenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 03:33	108-86-1	
Bromochloromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 03:33	74-97-5	
Bromodichloromethane	<0.090	ug/L	1.0	0.090	1		09/13/16 03:33	75-27-4	
Bromoform	<0.23	ug/L	4.0	0.23	1		09/13/16 03:33	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		09/13/16 03:33	74-83-9	
Carbon disulfide	<0.042	ug/L	1.0	0.042	1		09/13/16 03:33	75-15-0	
Carbon tetrachloride	22.3	ug/L	1.0	0.076	1		09/13/16 03:33	56-23-5	
Chlorobenzene	<0.068	ug/L	0.50	0.068	1		09/13/16 03:33	108-90-7	
Chloroethane	<0.18	ug/L	1.0	0.18	1		09/13/16 03:33	75-00-3	
Chloroform	5.8	ug/L	1.0	0.10	1		09/13/16 03:33	67-66-3	
Chloromethane	<0.21	ug/L	4.0	0.21	1		09/13/16 03:33	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 03:33	124-48-1	
Dibromomethane	<0.098	ug/L	1.0	0.098	1		09/13/16 03:33	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 03:33	75-71-8	
Ethylbenzene	<0.051	ug/L	0.50	0.051	1		09/13/16 03:33	100-41-4	
Hexachloro-1,3-butadiene	<0.11	ug/L	4.0	0.11	1		09/13/16 03:33	87-68-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: DAVEY-090816 **Lab ID: 10361993004** Collected: 09/08/16 16:45 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Isopropylbenzene (Cumene)	<0.11	ug/L	0.50	0.11	1		09/13/16 03:33	98-82-8	
Methyl-tert-butyl ether	<0.058	ug/L	0.50	0.058	1		09/13/16 03:33	1634-04-4	
Methylene Chloride	<0.20	ug/L	4.0	0.20	1		09/13/16 03:33	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		09/13/16 03:33	91-20-3	
Styrene	<0.075	ug/L	0.50	0.075	1		09/13/16 03:33	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		09/13/16 03:33	127-18-4	
Tetrahydrofuran	<1.2	ug/L	10.0	1.2	1		09/13/16 03:33	109-99-9	
Toluene	<0.080	ug/L	0.50	0.080	1		09/13/16 03:33	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		09/13/16 03:33	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 03:33	75-69-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		09/13/16 03:33	75-01-4	
Xylene (Total)	<0.073	ug/L	1.5	0.073	1		09/13/16 03:33	1330-20-7	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		09/13/16 03:33	156-59-2	
cis-1,3-Dichloropropene	<0.071	ug/L	0.50	0.071	1		09/13/16 03:33	10061-01-5	
m&p-Xylene	<0.073	ug/L	1.0	0.073	1		09/13/16 03:33	179601-23-1	
n-Butylbenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 03:33	104-51-8	
n-Propylbenzene	<0.096	ug/L	0.50	0.096	1		09/13/16 03:33	103-65-1	
o-Xylene	<0.073	ug/L	0.50	0.073	1		09/13/16 03:33	95-47-6	
p-Isopropyltoluene	<0.083	ug/L	0.50	0.083	1		09/13/16 03:33	99-87-6	
sec-Butylbenzene	<0.063	ug/L	0.50	0.063	1		09/13/16 03:33	135-98-8	
tert-Butylbenzene	<0.097	ug/L	0.50	0.097	1		09/13/16 03:33	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		09/13/16 03:33	156-60-5	
trans-1,3-Dichloropropene	<0.055	ug/L	0.50	0.055	1		09/13/16 03:33	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.15	ug/L	10.0	0.15	1		09/13/16 03:33	110-57-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	75-125		1		09/13/16 03:33	460-00-4	
Toluene-d8 (S)	104	%	75-125		1		09/13/16 03:33	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		09/13/16 03:33	17060-07-0	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: **MARLOW-090816** Lab ID: **10361993005** Collected: 09/08/16 17:00 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
1,1,1,2-Tetrachloroethane	<0.062	ug/L	0.50	0.062	1		09/13/16 03:56	630-20-6	
1,1,1-Trichloroethane	<0.10	ug/L	0.50	0.10	1		09/13/16 03:56	71-55-6	
1,1,2,2-Tetrachloroethane	<0.11	ug/L	0.50	0.11	1		09/13/16 03:56	79-34-5	
1,1,2-Trichloroethane	<0.098	ug/L	0.50	0.098	1		09/13/16 03:56	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.0J	ug/L	1.0		1		09/13/16 03:56	76-13-1	
1,1-Dichloroethane	<0.088	ug/L	0.50	0.088	1		09/13/16 03:56	75-34-3	
1,1-Dichloroethene	<0.089	ug/L	0.50	0.089	1		09/13/16 03:56	75-35-4	
1,1-Dichloropropene	<0.080	ug/L	0.50	0.080	1		09/13/16 03:56	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:56	87-61-6	
1,2,3-Trichloropropane	<0.073	ug/L	4.0	0.073	1		09/13/16 03:56	96-18-4	
1,2,4-Trichlorobenzene	<0.12	ug/L	0.50	0.12	1		09/13/16 03:56	120-82-1	
1,2,4-Trimethylbenzene	<0.083	ug/L	0.50	0.083	1		09/13/16 03:56	95-63-6	
1,2-Dibromo-3-chloropropane	<0.18	ug/L	4.0	0.18	1		09/13/16 03:56	96-12-8	
1,2-Dibromoethane (EDB)	<0.091	ug/L	0.50	0.091	1		09/13/16 03:56	106-93-4	
1,2-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:56	95-50-1	
1,2-Dichloroethane	<0.092	ug/L	0.50	0.092	1		09/13/16 03:56	107-06-2	
1,2-Dichloropropane	<0.084	ug/L	4.0	0.084	1		09/13/16 03:56	78-87-5	
1,3,5-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		09/13/16 03:56	108-67-8	
1,3-Dichlorobenzene	<0.082	ug/L	0.50	0.082	1		09/13/16 03:56	541-73-1	
1,3-Dichloropropane	<0.094	ug/L	0.50	0.094	1		09/13/16 03:56	142-28-9	
1,4-Dichlorobenzene	<0.075	ug/L	0.50	0.075	1		09/13/16 03:56	106-46-7	
2,2-Dichloropropane	<0.097	ug/L	1.0	0.097	1		09/13/16 03:56	594-20-7	
2-Butanone (MEK)	2.8J	ug/L	5.0	0.19	1		09/13/16 03:56	78-93-3	
2-Chlorotoluene	<0.11	ug/L	0.50	0.11	1		09/13/16 03:56	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		09/13/16 03:56	591-78-6	
4-Chlorotoluene	<0.10	ug/L	0.50	0.10	1		09/13/16 03:56	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/L	5.0	0.34	1		09/13/16 03:56	108-10-1	
Acetone	<1.9	ug/L	20.0	1.9	1		09/13/16 03:56	67-64-1	
Acrylonitrile	<0.28	ug/L	10.0	0.28	1		09/13/16 03:56	107-13-1	
Benzene	<0.086	ug/L	0.50	0.086	1		09/13/16 03:56	71-43-2	
Bromobenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 03:56	108-86-1	
Bromochloromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 03:56	74-97-5	
Bromodichloromethane	<0.090	ug/L	1.0	0.090	1		09/13/16 03:56	75-27-4	
Bromoform	<0.23	ug/L	4.0	0.23	1		09/13/16 03:56	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		09/13/16 03:56	74-83-9	
Carbon disulfide	2.8	ug/L	1.0	0.042	1		09/13/16 03:56	75-15-0	
Carbon tetrachloride	109	ug/L	1.0	0.076	1		09/13/16 03:56	56-23-5	
Chlorobenzene	<0.068	ug/L	0.50	0.068	1		09/13/16 03:56	108-90-7	
Chloroethane	<0.18	ug/L	1.0	0.18	1		09/13/16 03:56	75-00-3	
Chloroform	7.8	ug/L	1.0	0.10	1		09/13/16 03:56	67-66-3	
Chloromethane	<0.21	ug/L	4.0	0.21	1		09/13/16 03:56	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 03:56	124-48-1	
Dibromomethane	<0.098	ug/L	1.0	0.098	1		09/13/16 03:56	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 03:56	75-71-8	
Ethylbenzene	<0.051	ug/L	0.50	0.051	1		09/13/16 03:56	100-41-4	
Hexachloro-1,3-butadiene	<0.11	ug/L	4.0	0.11	1		09/13/16 03:56	87-68-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: MARLOW-090816 **Lab ID: 10361993005** Collected: 09/08/16 17:00 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Isopropylbenzene (Cumene)	<0.11	ug/L	0.50	0.11	1		09/13/16 03:56	98-82-8	
Methyl-tert-butyl ether	<0.058	ug/L	0.50	0.058	1		09/13/16 03:56	1634-04-4	
Methylene Chloride	<0.20	ug/L	4.0	0.20	1		09/13/16 03:56	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		09/13/16 03:56	91-20-3	
Styrene	<0.075	ug/L	0.50	0.075	1		09/13/16 03:56	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		09/13/16 03:56	127-18-4	
Tetrahydrofuran	11.7	ug/L	10.0	1.2	1		09/13/16 03:56	109-99-9	
Toluene	<0.080	ug/L	0.50	0.080	1		09/13/16 03:56	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		09/13/16 03:56	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 03:56	75-69-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		09/13/16 03:56	75-01-4	
Xylene (Total)	<0.073	ug/L	1.5	0.073	1		09/13/16 03:56	1330-20-7	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		09/13/16 03:56	156-59-2	
cis-1,3-Dichloropropene	<0.071	ug/L	0.50	0.071	1		09/13/16 03:56	10061-01-5	
m&p-Xylene	<0.073	ug/L	1.0	0.073	1		09/13/16 03:56	179601-23-1	
n-Butylbenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 03:56	104-51-8	
n-Propylbenzene	<0.096	ug/L	0.50	0.096	1		09/13/16 03:56	103-65-1	
o-Xylene	<0.073	ug/L	0.50	0.073	1		09/13/16 03:56	95-47-6	
p-Isopropyltoluene	<0.083	ug/L	0.50	0.083	1		09/13/16 03:56	99-87-6	
sec-Butylbenzene	<0.063	ug/L	0.50	0.063	1		09/13/16 03:56	135-98-8	
tert-Butylbenzene	<0.097	ug/L	0.50	0.097	1		09/13/16 03:56	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		09/13/16 03:56	156-60-5	
trans-1,3-Dichloropropene	<0.055	ug/L	0.50	0.055	1		09/13/16 03:56	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.15	ug/L	10.0	0.15	1		09/13/16 03:56	110-57-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	75-125		1		09/13/16 03:56	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		09/13/16 03:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	75-125		1		09/13/16 03:56	17060-07-0	

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ANALYTICAL RESULTS

Project: UPRR Freeman
Pace Project No.: 10361993

Sample: **RANDALL-090816** Lab ID: **10361993006** Collected: 09/08/16 17:15 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
1,1,1,2-Tetrachloroethane	<0.062	ug/L	0.50	0.062	1		09/13/16 04:18	630-20-6	
1,1,1-Trichloroethane	<0.10	ug/L	0.50	0.10	1		09/13/16 04:18	71-55-6	
1,1,2,2-Tetrachloroethane	<0.11	ug/L	0.50	0.11	1		09/13/16 04:18	79-34-5	
1,1,2-Trichloroethane	<0.098	ug/L	0.50	0.098	1		09/13/16 04:18	79-00-5	
1,1,2-Trichlorotrifluoroethane	0.0J	ug/L	1.0		1		09/13/16 04:18	76-13-1	
1,1-Dichloroethane	<0.088	ug/L	0.50	0.088	1		09/13/16 04:18	75-34-3	
1,1-Dichloroethene	<0.089	ug/L	0.50	0.089	1		09/13/16 04:18	75-35-4	
1,1-Dichloropropene	<0.080	ug/L	0.50	0.080	1		09/13/16 04:18	563-58-6	
1,2,3-Trichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 04:18	87-61-6	
1,2,3-Trichloropropane	<0.073	ug/L	4.0	0.073	1		09/13/16 04:18	96-18-4	
1,2,4-Trichlorobenzene	<0.12	ug/L	0.50	0.12	1		09/13/16 04:18	120-82-1	
1,2,4-Trimethylbenzene	<0.083	ug/L	0.50	0.083	1		09/13/16 04:18	95-63-6	
1,2-Dibromo-3-chloropropane	<0.18	ug/L	4.0	0.18	1		09/13/16 04:18	96-12-8	
1,2-Dibromoethane (EDB)	<0.091	ug/L	0.50	0.091	1		09/13/16 04:18	106-93-4	
1,2-Dichlorobenzene	<0.10	ug/L	0.50	0.10	1		09/13/16 04:18	95-50-1	
1,2-Dichloroethane	<0.092	ug/L	0.50	0.092	1		09/13/16 04:18	107-06-2	
1,2-Dichloropropane	<0.084	ug/L	4.0	0.084	1		09/13/16 04:18	78-87-5	
1,3,5-Trimethylbenzene	<0.078	ug/L	0.50	0.078	1		09/13/16 04:18	108-67-8	
1,3-Dichlorobenzene	<0.082	ug/L	0.50	0.082	1		09/13/16 04:18	541-73-1	
1,3-Dichloropropane	<0.094	ug/L	0.50	0.094	1		09/13/16 04:18	142-28-9	
1,4-Dichlorobenzene	<0.075	ug/L	0.50	0.075	1		09/13/16 04:18	106-46-7	
2,2-Dichloropropane	<0.097	ug/L	1.0	0.097	1		09/13/16 04:18	594-20-7	
2-Butanone (MEK)	<0.19	ug/L	5.0	0.19	1		09/13/16 04:18	78-93-3	
2-Chlorotoluene	<0.11	ug/L	0.50	0.11	1		09/13/16 04:18	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		09/13/16 04:18	591-78-6	
4-Chlorotoluene	<0.10	ug/L	0.50	0.10	1		09/13/16 04:18	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/L	5.0	0.34	1		09/13/16 04:18	108-10-1	
Acetone	<1.9	ug/L	20.0	1.9	1		09/13/16 04:18	67-64-1	
Acrylonitrile	<0.28	ug/L	10.0	0.28	1		09/13/16 04:18	107-13-1	
Benzene	<0.086	ug/L	0.50	0.086	1		09/13/16 04:18	71-43-2	
Bromobenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 04:18	108-86-1	
Bromochloromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 04:18	74-97-5	
Bromodichloromethane	<0.090	ug/L	1.0	0.090	1		09/13/16 04:18	75-27-4	
Bromoform	<0.23	ug/L	4.0	0.23	1		09/13/16 04:18	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		09/13/16 04:18	74-83-9	
Carbon disulfide	0.52J	ug/L	1.0	0.042	1		09/13/16 04:18	75-15-0	
Carbon tetrachloride	332	ug/L	5.0	0.38	5		09/13/16 14:05	56-23-5	
Chlorobenzene	<0.068	ug/L	0.50	0.068	1		09/13/16 04:18	108-90-7	
Chloroethane	<0.18	ug/L	1.0	0.18	1		09/13/16 04:18	75-00-3	
Chloroform	14.6	ug/L	1.0	0.10	1		09/13/16 04:18	67-66-3	
Chloromethane	<0.21	ug/L	4.0	0.21	1		09/13/16 04:18	74-87-3	
Dibromochloromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 04:18	124-48-1	
Dibromomethane	<0.098	ug/L	1.0	0.098	1		09/13/16 04:18	74-95-3	
Dichlorodifluoromethane	<0.16	ug/L	1.0	0.16	1		09/13/16 04:18	75-71-8	
Ethylbenzene	<0.051	ug/L	0.50	0.051	1		09/13/16 04:18	100-41-4	
Hexachloro-1,3-butadiene	<0.11	ug/L	4.0	0.11	1		09/13/16 04:18	87-68-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10361993

Sample: RANDALL-090816 **Lab ID: 10361993006** Collected: 09/08/16 17:15 Received: 09/10/16 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
524.2 MSV		Analytical Method: EPA 524.2							
Isopropylbenzene (Cumene)	<0.11	ug/L	0.50	0.11	1		09/13/16 04:18	98-82-8	
Methyl-tert-butyl ether	<0.058	ug/L	0.50	0.058	1		09/13/16 04:18	1634-04-4	
Methylene Chloride	<0.20	ug/L	4.0	0.20	1		09/13/16 04:18	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		09/13/16 04:18	91-20-3	
Styrene	<0.075	ug/L	0.50	0.075	1		09/13/16 04:18	100-42-5	
Tetrachloroethene	<0.12	ug/L	0.50	0.12	1		09/13/16 04:18	127-18-4	
Tetrahydrofuran	<1.2	ug/L	10.0	1.2	1		09/13/16 04:18	109-99-9	
Toluene	0.10J	ug/L	0.50	0.080	1		09/13/16 04:18	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		09/13/16 04:18	79-01-6	
Trichlorofluoromethane	<0.13	ug/L	0.50	0.13	1		09/13/16 04:18	75-69-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		09/13/16 04:18	75-01-4	
Xylene (Total)	<0.073	ug/L	1.5	0.073	1		09/13/16 04:18	1330-20-7	
cis-1,2-Dichloroethene	<0.085	ug/L	1.0	0.085	1		09/13/16 04:18	156-59-2	
cis-1,3-Dichloropropene	<0.071	ug/L	0.50	0.071	1		09/13/16 04:18	10061-01-5	
m&p-Xylene	<0.073	ug/L	1.0	0.073	1		09/13/16 04:18	179601-23-1	
n-Butylbenzene	<0.081	ug/L	0.50	0.081	1		09/13/16 04:18	104-51-8	
n-Propylbenzene	<0.096	ug/L	0.50	0.096	1		09/13/16 04:18	103-65-1	
o-Xylene	<0.073	ug/L	0.50	0.073	1		09/13/16 04:18	95-47-6	
p-Isopropyltoluene	<0.083	ug/L	0.50	0.083	1		09/13/16 04:18	99-87-6	
sec-Butylbenzene	<0.063	ug/L	0.50	0.063	1		09/13/16 04:18	135-98-8	
tert-Butylbenzene	<0.097	ug/L	0.50	0.097	1		09/13/16 04:18	98-06-6	
trans-1,2-Dichloroethene	<0.11	ug/L	0.50	0.11	1		09/13/16 04:18	156-60-5	
trans-1,3-Dichloropropene	<0.055	ug/L	0.50	0.055	1		09/13/16 04:18	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.15	ug/L	10.0	0.15	1		09/13/16 04:18	110-57-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	75-125		1		09/13/16 04:18	460-00-4	
Toluene-d8 (S)	103	%	75-125		1		09/13/16 04:18	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		09/13/16 04:18	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10361993

QC Batch: 435239 Analysis Method: EPA 524.2
QC Batch Method: EPA 524.2 Analysis Description: 524.2 MSV
Associated Lab Samples: 10361993001, 10361993002, 10361993003, 10361993004, 10361993005, 10361993006

METHOD BLANK: 2365709 Matrix: Water
Associated Lab Samples: 10361993001, 10361993002, 10361993003, 10361993004, 10361993005, 10361993006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.062	0.50	0.062	09/13/16 01:41	
1,1,1-Trichloroethane	ug/L	<0.10	0.50	0.10	09/13/16 01:41	
1,1,2,2-Tetrachloroethane	ug/L	<0.11	0.50	0.11	09/13/16 01:41	
1,1,2-Trichloroethane	ug/L	<0.098	0.50	0.098	09/13/16 01:41	
1,1,2-Trichlorotrifluoroethane	ug/L	0.0J	1.0		09/13/16 01:41	
1,1-Dichloroethane	ug/L	<0.088	0.50	0.088	09/13/16 01:41	
1,1-Dichloroethene	ug/L	<0.089	0.50	0.089	09/13/16 01:41	
1,1-Dichloropropene	ug/L	<0.080	0.50	0.080	09/13/16 01:41	
1,2,3-Trichlorobenzene	ug/L	<0.10	0.50	0.10	09/13/16 01:41	
1,2,3-Trichloropropane	ug/L	<0.073	4.0	0.073	09/13/16 01:41	
1,2,4-Trichlorobenzene	ug/L	<0.12	0.50	0.12	09/13/16 01:41	
1,2,4-Trimethylbenzene	ug/L	<0.083	0.50	0.083	09/13/16 01:41	
1,2-Dibromo-3-chloropropane	ug/L	<0.18	4.0	0.18	09/13/16 01:41	
1,2-Dibromoethane (EDB)	ug/L	<0.091	0.50	0.091	09/13/16 01:41	
1,2-Dichlorobenzene	ug/L	<0.10	0.50	0.10	09/13/16 01:41	
1,2-Dichloroethane	ug/L	<0.092	0.50	0.092	09/13/16 01:41	
1,2-Dichloropropane	ug/L	<0.084	4.0	0.084	09/13/16 01:41	
1,3,5-Trimethylbenzene	ug/L	<0.078	0.50	0.078	09/13/16 01:41	
1,3-Dichlorobenzene	ug/L	<0.082	0.50	0.082	09/13/16 01:41	
1,3-Dichloropropane	ug/L	<0.094	0.50	0.094	09/13/16 01:41	
1,4-Dichlorobenzene	ug/L	<0.075	0.50	0.075	09/13/16 01:41	
2,2-Dichloropropane	ug/L	<0.097	1.0	0.097	09/13/16 01:41	
2-Butanone (MEK)	ug/L	<0.19	5.0	0.19	09/13/16 01:41	
2-Chlorotoluene	ug/L	<0.11	0.50	0.11	09/13/16 01:41	
2-Hexanone	ug/L	<0.19	5.0	0.19	09/13/16 01:41	
4-Chlorotoluene	ug/L	<0.10	0.50	0.10	09/13/16 01:41	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.34	5.0	0.34	09/13/16 01:41	
Acetone	ug/L	<1.9	20.0	1.9	09/13/16 01:41	
Acrylonitrile	ug/L	<0.28	10.0	0.28	09/13/16 01:41	
Benzene	ug/L	<0.086	0.50	0.086	09/13/16 01:41	
Bromobenzene	ug/L	<0.081	0.50	0.081	09/13/16 01:41	
Bromochloromethane	ug/L	<0.16	1.0	0.16	09/13/16 01:41	
Bromodichloromethane	ug/L	<0.090	1.0	0.090	09/13/16 01:41	
Bromoform	ug/L	<0.23	4.0	0.23	09/13/16 01:41	
Bromomethane	ug/L	<0.20	4.0	0.20	09/13/16 01:41	
Carbon disulfide	ug/L	<0.042	1.0	0.042	09/13/16 01:41	
Carbon tetrachloride	ug/L	<0.076	1.0	0.076	09/13/16 01:41	
Chlorobenzene	ug/L	<0.068	0.50	0.068	09/13/16 01:41	
Chloroethane	ug/L	<0.18	1.0	0.18	09/13/16 01:41	
Chloroform	ug/L	<0.10	1.0	0.10	09/13/16 01:41	
Chloromethane	ug/L	<0.21	4.0	0.21	09/13/16 01:41	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10361993

METHOD BLANK: 2365709

Matrix: Water

Associated Lab Samples: 10361993001, 10361993002, 10361993003, 10361993004, 10361993005, 10361993006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/L	<0.085	1.0	0.085	09/13/16 01:41	
cis-1,3-Dichloropropene	ug/L	<0.071	0.50	0.071	09/13/16 01:41	
Dibromochloromethane	ug/L	<0.13	0.50	0.13	09/13/16 01:41	
Dibromomethane	ug/L	<0.098	1.0	0.098	09/13/16 01:41	
Dichlorodifluoromethane	ug/L	<0.16	1.0	0.16	09/13/16 01:41	
Ethylbenzene	ug/L	<0.051	0.50	0.051	09/13/16 01:41	
Hexachloro-1,3-butadiene	ug/L	<0.11	4.0	0.11	09/13/16 01:41	
Isopropylbenzene (Cumene)	ug/L	<0.11	0.50	0.11	09/13/16 01:41	
m&p-Xylene	ug/L	<0.073	1.0	0.073	09/13/16 01:41	
Methyl-tert-butyl ether	ug/L	<0.058	0.50	0.058	09/13/16 01:41	
Methylene Chloride	ug/L	<0.20	4.0	0.20	09/13/16 01:41	
n-Butylbenzene	ug/L	<0.081	0.50	0.081	09/13/16 01:41	
n-Propylbenzene	ug/L	<0.096	0.50	0.096	09/13/16 01:41	
Naphthalene	ug/L	<0.064	4.0	0.064	09/13/16 01:41	
o-Xylene	ug/L	<0.073	0.50	0.073	09/13/16 01:41	
p-Isopropyltoluene	ug/L	<0.083	0.50	0.083	09/13/16 01:41	
sec-Butylbenzene	ug/L	<0.063	0.50	0.063	09/13/16 01:41	
Styrene	ug/L	<0.075	0.50	0.075	09/13/16 01:41	
tert-Butylbenzene	ug/L	<0.097	0.50	0.097	09/13/16 01:41	
Tetrachloroethene	ug/L	<0.12	0.50	0.12	09/13/16 01:41	
Tetrahydrofuran	ug/L	<1.2	10.0	1.2	09/13/16 01:41	
Toluene	ug/L	<0.080	0.50	0.080	09/13/16 01:41	
trans-1,2-Dichloroethene	ug/L	<0.11	0.50	0.11	09/13/16 01:41	
trans-1,3-Dichloropropene	ug/L	<0.055	0.50	0.055	09/13/16 01:41	
trans-1,4-Dichloro-2-butene	ug/L	<0.15	10.0	0.15	09/13/16 01:41	
Trichloroethene	ug/L	<0.044	0.40	0.044	09/13/16 01:41	
Trichlorofluoromethane	ug/L	<0.13	0.50	0.13	09/13/16 01:41	
Vinyl chloride	ug/L	<0.098	0.20	0.098	09/13/16 01:41	
Xylene (Total)	ug/L	<0.073	1.5	0.073	09/13/16 01:41	
1,2-Dichloroethane-d4 (S)	%	103	75-125		09/13/16 01:41	
4-Bromofluorobenzene (S)	%	102	75-125		09/13/16 01:41	
Toluene-d8 (S)	%	102	75-125		09/13/16 01:41	

LABORATORY CONTROL SAMPLE & LCSD: 2365710

2365711

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.3	21.1	106	106	70-130	1	20	
1,1,1-Trichloroethane	ug/L	20	19.4	19.3	97	97	70-130	0	20	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	19.6	102	98	70-130	4	20	
1,1,2-Trichloroethane	ug/L	20	21.1	20.3	105	102	70-130	4	20	
1,1,2-Trichlorotrifluoroethane	ug/L	20	22.0	20.2	110	101	70-130	9	20	
1,1-Dichloroethane	ug/L	20	19.8	19.3	99	97	70-130	3	20	
1,1-Dichloroethene	ug/L	20	19.6	19.0	98	95	70-130	3	20	
1,1-Dichloropropene	ug/L	20	21.3	20.6	106	103	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10361993

LABORATORY CONTROL SAMPLE & LCSD: 2365710

2365711

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,3-Trichlorobenzene	ug/L	20	20.0	20.3	100	101	70-130	2	20	
1,2,3-Trichloropropane	ug/L	20	21.5	20.4	107	102	70-130	5	20	
1,2,4-Trichlorobenzene	ug/L	20	20.1	19.7	100	98	70-130	2	20	
1,2,4-Trimethylbenzene	ug/L	20	21.9	21.6	110	108	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	50	47.8	46.5	96	93	70-130	3	20	
1,2-Dibromoethane (EDB)	ug/L	20	19.8	19.4	99	97	70-130	2	20	
1,2-Dichlorobenzene	ug/L	20	20.6	20.5	103	103	70-130	1	20	
1,2-Dichloroethane	ug/L	20	20.2	19.2	101	96	70-130	5	20	
1,2-Dichloropropane	ug/L	20	20.2	20.0	101	100	70-130	1	20	
1,3,5-Trimethylbenzene	ug/L	20	21.7	21.4	109	107	70-130	2	20	
1,3-Dichlorobenzene	ug/L	20	20.4	20.3	102	102	70-130	1	20	
1,3-Dichloropropane	ug/L	20	20.8	20.7	104	104	70-130	0	20	
1,4-Dichlorobenzene	ug/L	20	20.6	20.0	103	100	70-130	3	20	
2,2-Dichloropropane	ug/L	20	18.6	18.3	93	92	70-130	1	20	
2-Butanone (MEK)	ug/L	100	98.2	93.7	98	94	70-130	5	20	
2-Chlorotoluene	ug/L	20	21.2	20.6	106	103	70-130	3	20	
2-Hexanone	ug/L	100	103	101	103	101	70-130	2	20	
4-Chlorotoluene	ug/L	20	21.7	21.2	109	106	70-130	3	20	
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	99.9	103	100	70-130	3	20	
Acetone	ug/L	100	109	112	109	112	70-130	3	20	
Acrylonitrile	ug/L	200	199	192	99	96	70-130	3	20	
Benzene	ug/L	20	19.7	19.6	99	98	70-130	0	20	
Bromobenzene	ug/L	20	20.7	19.7	104	99	70-130	5	20	
Bromochloromethane	ug/L	20	20.4	20.5	102	103	70-130	0	20	
Bromodichloromethane	ug/L	20	20.1	20.2	101	101	70-130	0	20	
Bromoform	ug/L	20	19.4	19.4	97	97	70-130	0	20	
Bromomethane	ug/L	20	23.2	22.6	116	113	70-130	3	20	
Carbon disulfide	ug/L	20	19.4	18.9	97	94	70-130	3	20	
Carbon tetrachloride	ug/L	20	19.8	19.6	99	98	70-130	1	20	
Chlorobenzene	ug/L	20	19.9	19.6	99	98	70-130	1	20	
Chloroethane	ug/L	20	22.7	21.8	113	109	70-130	4	20	
Chloroform	ug/L	20	19.5	19.0	98	95	70-130	3	20	
Chloromethane	ug/L	20	20.9	20.1	104	101	70-130	4	20	
cis-1,2-Dichloroethene	ug/L	20	20.3	19.5	101	97	70-130	4	20	
cis-1,3-Dichloropropene	ug/L	20	21.6	21.4	108	107	70-130	1	20	
Dibromochloromethane	ug/L	20	19.9	20.2	100	101	70-130	1	20	
Dibromomethane	ug/L	20	20.2	20.2	101	101	70-130	0	20	
Dichlorodifluoromethane	ug/L	20	19.8	18.1	99	90	70-130	9	20	
Ethylbenzene	ug/L	20	20.4	20.3	102	101	70-130	1	20	
Hexachloro-1,3-butadiene	ug/L	20	20.6	20.0	103	100	70-130	3	20	
Isopropylbenzene (Cumene)	ug/L	20	20.8	20.9	104	104	70-130	0	20	
m&p-Xylene	ug/L	40	41.0	41.2	102	103	70-130	1	20	
Methyl-tert-butyl ether	ug/L	20	19.8	19.4	99	97	70-130	2	20	
Methylene Chloride	ug/L	20	21.3	20.7	107	104	70-130	3	20	
n-Butylbenzene	ug/L	20	20.4	20.6	102	103	70-130	1	20	
n-Propylbenzene	ug/L	20	20.6	20.2	103	101	70-130	2	20	
Naphthalene	ug/L	20	19.6	19.3	98	96	70-130	2	20	

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10361993

LABORATORY CONTROL SAMPLE & LCSD: 2365710

Parameter	Units	2365711							Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD		
o-Xylene	ug/L	20	21.8	20.9	109	105	70-130	4	20	
p-Isopropyltoluene	ug/L	20	20.7	20.9	103	105	70-130	1	20	
sec-Butylbenzene	ug/L	20	21.7	21.3	109	106	70-130	2	20	
Styrene	ug/L	20	22.4	22.3	112	111	70-130	1	20	
tert-Butylbenzene	ug/L	20	21.4	21.0	107	105	70-130	2	20	
Tetrachloroethene	ug/L	20	19.4	19.8	97	99	70-130	2	20	
Tetrahydrofuran	ug/L	200	199	196	100	98	70-130	1	20	
Toluene	ug/L	20	20.6	20.3	103	101	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	20	19.7	19.2	99	96	70-130	3	20	
trans-1,3-Dichloropropene	ug/L	20	21.6	21.2	108	106	70-130	2	20	
trans-1,4-Dichloro-2-butene	ug/L	50	55.9	56.0	112	112	70-130	0	20	
Trichloroethene	ug/L	20	19.5	18.8	97	94	70-130	3	20	
Trichlorofluoromethane	ug/L	20	20.2	19.2	101	96	70-130	5	20	
Vinyl chloride	ug/L	20	20.1	18.9	100	94	70-130	6	20	
Xylene (Total)	ug/L	60	62.7	62.2	105	104	70-130	1	20	
1,2-Dichloroethane-d4 (S)	%				97	97	75-125			
4-Bromofluorobenzene (S)	%				103	101	75-125			
Toluene-d8 (S)	%				101	103	75-125			

MATRIX SPIKE SAMPLE: 2365712

Parameter	Units	10361993001		MS Result	MS % Rec	% Rec Limits	Qualifiers
		Result	Spike Conc.				
1,1,1,2-Tetrachloroethane	ug/L	<0.062	20	21.9	110	70-130	
1,1,1-Trichloroethane	ug/L	<0.10	20	20.6	103	70-130	
1,1,2,2-Tetrachloroethane	ug/L	<0.11	20	20.7	103	70-130	
1,1,2-Trichloroethane	ug/L	<0.098	20	20.3	101	70-130	
1,1,2-Trichlorotrifluoroethane	ug/L	0.0J	20	25.5	127	70-130	
1,1-Dichloroethane	ug/L	<0.088	20	19.7	99	70-130	
1,1-Dichloroethene	ug/L	<0.089	20	0.13J	1	70-130	M1
1,1-Dichloropropene	ug/L	<0.080	20	<0.080	0	70-130	M1
1,2,3-Trichlorobenzene	ug/L	<0.10	20	21.3	106	70-130	
1,2,3-Trichloropropane	ug/L	<0.073	20	21.1	106	70-130	
1,2,4-Trichlorobenzene	ug/L	<0.12	20	21.5	107	70-130	
1,2,4-Trimethylbenzene	ug/L	<0.083	20	<0.083	0	70-130	M1
1,2-Dibromo-3-chloropropane	ug/L	<0.18	50	50.3	101	70-130	
1,2-Dibromoethane (EDB)	ug/L	<0.091	20	19.4	97	70-130	
1,2-Dichlorobenzene	ug/L	<0.10	20	21.0	105	70-130	
1,2-Dichloroethane	ug/L	<0.092	20	19.6	98	70-130	
1,2-Dichloropropane	ug/L	<0.084	20	21.6	108	70-130	
1,3,5-Trimethylbenzene	ug/L	<0.078	20	0.12J	1	70-130	M1
1,3-Dichlorobenzene	ug/L	<0.082	20	19.7	99	70-130	
1,3-Dichloropropane	ug/L	<0.094	20	20.4	102	70-130	
1,4-Dichlorobenzene	ug/L	<0.075	20	21.9	110	70-130	
2,2-Dichloropropane	ug/L	<0.097	20	19.7	99	70-130	
2-Butanone (MEK)	ug/L	3.1J	100	108	105	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10361993

MATRIX SPIKE SAMPLE: 2365712		10361993001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
2-Chlorotoluene	ug/L	<0.11	20	24.5	123	70-130	
2-Hexanone	ug/L	0.87J	100	98.0	97	70-130	
4-Chlorotoluene	ug/L	<0.10	20	21.1	106	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.34	100	107	107	70-130	
Acetone	ug/L	21.8	100	130	108	70-130	
Acrylonitrile	ug/L	<0.28	200	185	93	70-130	
Benzene	ug/L	<0.086	20	15.7	79	70-130	
Bromobenzene	ug/L	<0.081	20	19.4	97	70-130	
Bromochloromethane	ug/L	<0.16	20	20.1	101	70-130	
Bromodichloromethane	ug/L	8.2	20	28.5	102	70-130	
Bromoform	ug/L	<0.23	20	18.9	95	70-130	
Bromomethane	ug/L	<0.20	20	26.2	131	70-130	M1
Carbon disulfide	ug/L	1.3	20	19.7	92	70-130	
Carbon tetrachloride	ug/L	0.16J	20	22.7	113	70-130	
Chlorobenzene	ug/L	<0.068	20	24.7	124	70-130	
Chloroethane	ug/L	0.77J	20	25.4	123	70-130	
Chloroform	ug/L	220	20	232	62	70-130	M1
Chloromethane	ug/L	2.1J	20	28.7	133	70-130	M1
cis-1,2-Dichloroethene	ug/L	<0.085	20	17.1	86	70-130	
cis-1,3-Dichloropropene	ug/L	<0.071	20	0.15J	1	70-130	M1
Dibromochloromethane	ug/L	0.91	20	21.0	101	70-130	
Dibromomethane	ug/L	<0.098	20	19.3	96	70-130	
Dichlorodifluoromethane	ug/L	<0.16	20	24.3	122	70-130	
Ethylbenzene	ug/L	<0.051	20	0.14J	1	70-130	M1
Hexachloro-1,3-butadiene	ug/L	<0.11	20	22.2	111	70-130	
Isopropylbenzene (Cumene)	ug/L	<0.11	20	0.14J	1	70-130	M1
m&p-Xylene	ug/L	<0.073	40	0.17J	0	70-130	M1
Methyl-tert-butyl ether	ug/L	<0.058	20	19.4	97	70-130	
Methylene Chloride	ug/L	5.8	20	27.0	106	70-130	
n-Butylbenzene	ug/L	<0.081	20	0.89	4	70-130	M1
n-Propylbenzene	ug/L	<0.096	20	0.17J	1	70-130	M1
Naphthalene	ug/L	<0.064	20	1.4J	7	70-130	M1
o-Xylene	ug/L	<0.073	20	0.12J	1	70-130	M1
p-Isopropyltoluene	ug/L	<0.083	20	<0.083	0	70-130	M1
sec-Butylbenzene	ug/L	<0.063	20	0.26J	1	70-130	M1
Styrene	ug/L	<0.075	20	0.076J	0	70-130	M1
tert-Butylbenzene	ug/L	<0.097	20	0.25J	1	70-130	M1
Tetrachloroethene	ug/L	<0.12	20	20.0	100	70-130	
Tetrahydrofuran	ug/L	<1.2	200	188	94	70-130	
Toluene	ug/L	<0.080	20	0.093J	0	70-130	M1
trans-1,2-Dichloroethene	ug/L	<0.11	20	18.9	94	70-130	
trans-1,3-Dichloropropene	ug/L	<0.055	20	0.24J	1	70-130	M1
trans-1,4-Dichloro-2-butene	ug/L	<0.15	50	4.0J	8	70-130	M1
Trichloroethene	ug/L	<0.044	20	20.0	100	70-130	
Trichlorofluoromethane	ug/L	<0.13	20	24.2	121	70-130	
Vinyl chloride	ug/L	<0.098	20	<0.098	0	70-130	M1
Xylene (Total)	ug/L	<0.073	60	<0.073	0	70-130	MS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10361993

MATRIX SPIKE SAMPLE: 2365712		10361993001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%.				99	75-125	
4-Bromofluorobenzene (S)	%.				100	75-125	1M
Toluene-d8 (S)	%.				84	75-125	

SAMPLE DUPLICATE: 2365713

Parameter	Units	10361993002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.062	<0.062		20	
1,1,1-Trichloroethane	ug/L	<0.10	<0.10		20	
1,1,2,2-Tetrachloroethane	ug/L	<0.11	<0.11		20	
1,1,2-Trichloroethane	ug/L	<0.098	<0.098		20	
1,1,2-Trichlorotrifluoroethane	ug/L	0.0J	0.0J		20	
1,1-Dichloroethane	ug/L	<0.088	<0.088		20	
1,1-Dichloroethene	ug/L	<0.089	<0.089		20	
1,1-Dichloropropene	ug/L	<0.080	<0.080		20	
1,2,3-Trichlorobenzene	ug/L	<0.10	<0.10		20	
1,2,3-Trichloropropane	ug/L	<0.073	<0.073		20	
1,2,4-Trichlorobenzene	ug/L	<0.12	<0.12		20	
1,2,4-Trimethylbenzene	ug/L	<0.083	<0.083		20	
1,2-Dibromo-3-chloropropane	ug/L	<0.18	<0.18		20	
1,2-Dibromoethane (EDB)	ug/L	<0.091	<0.091		20	
1,2-Dichlorobenzene	ug/L	<0.10	<0.10		20	
1,2-Dichloroethane	ug/L	<0.092	<0.092		20	
1,2-Dichloropropane	ug/L	<0.084	<0.084		20	
1,3,5-Trimethylbenzene	ug/L	<0.078	<0.078		20	
1,3-Dichlorobenzene	ug/L	<0.082	<0.082		20	
1,3-Dichloropropane	ug/L	<0.094	<0.094		20	
1,4-Dichlorobenzene	ug/L	<0.075	<0.075		20	
2,2-Dichloropropane	ug/L	<0.097	<0.097		20	
2-Butanone (MEK)	ug/L	<0.19	<0.19		20	
2-Chlorotoluene	ug/L	<0.11	<0.11		20	
2-Hexanone	ug/L	<0.19	<0.19		20	
4-Chlorotoluene	ug/L	<0.10	<0.10		20	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.34	<0.34		20	
Acetone	ug/L	<1.9	<1.9		20	
Acrylonitrile	ug/L	<0.28	<0.28		20	
Benzene	ug/L	<0.086	<0.086		20	
Bromobenzene	ug/L	<0.081	<0.081		20	
Bromochloromethane	ug/L	<0.16	<0.16		20	
Bromodichloromethane	ug/L	<0.090	<0.090		20	
Bromoform	ug/L	<0.23	<0.23		20	
Bromomethane	ug/L	<0.20	<0.20		20	
Carbon disulfide	ug/L	<0.042	<0.042		20	
Carbon tetrachloride	ug/L	9.1	10.3	12	20	
Chlorobenzene	ug/L	<0.068	<0.068		20	

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10361993

SAMPLE DUPLICATE: 2365713

Parameter	Units	10361993002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloroethane	ug/L	<0.18	<0.18		20	
Chloroform	ug/L	1.7	1.5	15	20	
Chloromethane	ug/L	<0.21	<0.21		20	
cis-1,2-Dichloroethene	ug/L	<0.085	<0.085		20	
cis-1,3-Dichloropropene	ug/L	<0.071	<0.071		20	
Dibromochloromethane	ug/L	<0.13	<0.13		20	
Dibromomethane	ug/L	<0.098	<0.098		20	
Dichlorodifluoromethane	ug/L	<0.16	<0.16		20	
Ethylbenzene	ug/L	<0.051	<0.051		20	
Hexachloro-1,3-butadiene	ug/L	<0.11	<0.11		20	
Isopropylbenzene (Cumene)	ug/L	<0.11	<0.11		20	
m&p-Xylene	ug/L	<0.073	<0.073		20	
Methyl-tert-butyl ether	ug/L	<0.058	<0.058		20	
Methylene Chloride	ug/L	<0.20	<0.20		20	
n-Butylbenzene	ug/L	<0.081	<0.081		20	
n-Propylbenzene	ug/L	<0.096	<0.096		20	
Naphthalene	ug/L	<0.064	<0.064		20	
o-Xylene	ug/L	<0.073	<0.073		20	
p-Isopropyltoluene	ug/L	<0.083	<0.083		20	
sec-Butylbenzene	ug/L	<0.063	<0.063		20	
Styrene	ug/L	<0.075	<0.075		20	
tert-Butylbenzene	ug/L	<0.097	<0.097		20	
Tetrachloroethene	ug/L	<0.12	<0.12		20	
Tetrahydrofuran	ug/L	<1.2	<1.2		20	
Toluene	ug/L	<0.080	<0.080		20	
trans-1,2-Dichloroethene	ug/L	<0.11	<0.11		20	
trans-1,3-Dichloropropene	ug/L	<0.055	<0.055		20	
trans-1,4-Dichloro-2-butene	ug/L	<0.15	<0.15		20	
Trichloroethene	ug/L	<0.044	<0.044		20	
Trichlorofluoromethane	ug/L	<0.13	<0.13		20	
Vinyl chloride	ug/L	<0.098	<0.098		20	
Xylene (Total)	ug/L	<0.073	<0.073		20	
1,2-Dichloroethane-d4 (S)	%	102	107	4		
4-Bromofluorobenzene (S)	%	101	101	0		
Toluene-d8 (S)	%	103	100	3		

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QUALIFIERS

Project: UPRR Freeman

Pace Project No.: 10361993

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 435239

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1M Post analysis detected residual chlorine

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

MS Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR Freeman

Pace Project No.: 10361993

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10361993001	LANG-090816	EPA 524.2	435239		
10361993002	LASHA-AG-090816	EPA 524.2	435239		
10361993003	SILVA-090816	EPA 524.2	435239		
10361993004	DAVEY-090816	EPA 524.2	435239		
10361993005	MARLOW-090816	EPA 524.2	435239		
10361993006	RANDALL-090816	EPA 524.2	435239		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10361993

Page: 1 of 1
1720889

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: CUZM		Report To: STEVE DEMUS		Attention:	
Address: 199 W RIVERSIDE AVE SUITE 600 SPokane WA 99201		Copy To:		Company Name: UPRR	
Email To: SDMUS@CHAMILLM		Purchase Order No.:		Address:	
Phone: 509-464-7226 Fax:		Project Name: UPRR FREEMAN		Pace Quote Reference:	
Requested Due Date/TAT: STANDARD		Project Number:		Pace Project Manager:	
				Pace Profile #:	
				REGULATORY AGENCY	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input checked="" type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
				Site Location	
				STATE: WA	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test ↓	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
					COMPOSITE				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃					Methanol	Other
					START	END/GRAB														
1	LANG-090816	DW	G		9-8-16	1515	3										001			
2	LASHA-AG-090816					1600	3										002			
3	SILVA-090816					1615	3										003			
4	DAVEY-090816					1645	3										004			
5	MARLOW-090816					1700	3										005			
6	RANDALL-090816					1715	3										006			
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	<i>[Signature]</i> CUZM REUSE/GRAB	9/9/16	1700	<i>[Signature]</i> AR	9-10-16	9:45	2.5 Y N Y

ORIGINAL	SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	PRINT Name of SAMPLER: <i>Ryan Green</i>					
	SIGNATURE of SAMPLER: <i>[Signature]</i>	DATE Signed (MM/DD/YY): 9/9/16 1700				

Sample Condition Upon Receipt - ESI Tech Specs
 Client Name: CH2M
 Project #: **WO# : 10361993**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
Tracking Number: 8104 0944 8088

Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____
 Temp Blank? Yes No

Thermometer Used: 151401163 151401164 B88A912167504 B88A0143310098
 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.6
 Cooler Temp Corrected (°C): 2.5
 Biological Tissue Frozen? Yes No NA

Temp should be above freezing to 6°C
 Correction Factor: -0.1
 Date and Initials of Person Examining Contents: KAC 9-10-16

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.	
Sufficient Volume (triple volume provided for MS/MSD)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>CWT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl < 2; NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.	
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION
 Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>15:03</u> Temp: <u>2.6</u> Corrected Temp: <u>2.5</u>	
Time: <u>15:12</u> put in cooler	
Time: _____ Temp: _____ Corrected Temp: _____	

Project Manager Review: JENNI GROSS
 Date: 09/12/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

September 12, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

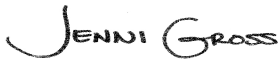
RE: Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362022

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on September 09, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Mike Niemet, CH2M Hill
Mark Ochsner, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362022

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10362022001	OA1-15710P-20160907	Air	09/08/16 16:45	09/09/16 10:00
10362022002	IA1-15710P-20160907	Air	09/08/16 16:41	09/09/16 10:00
10362022003	IA2-15608P-20160907	Air	09/08/16 16:41	09/09/16 10:00

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SAMPLE ANALYTE COUNT

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10362022001	OA1-15710P-20160907	TO-15	MJL	60	PASI-M
10362022002	IA1-15710P-20160907	TO-15	MJL	60	PASI-M
10362022003	IA2-15608P-20160907	TO-15	MJL	60	PASI-M

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362022

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10362022001	OA1-15710P-20160907					
TO-15	1,2,4-Trimethylbenzene	2.5	ug/m3	1.7	09/12/16 12:26	CH
TO-15	2-Butanone (MEK)	1.1J	ug/m3	5.0	09/12/16 12:26	CH,L1
TO-15	2-Propanol	2.2J	ug/m3	4.2	09/12/16 12:26	
TO-15	Acetone	7.8	ug/m3	4.1	09/12/16 12:26	
TO-15	Benzene	0.97	ug/m3	0.55	09/12/16 12:26	
TO-15	Chlorobenzene	6.6	ug/m3	1.6	09/12/16 12:26	
TO-15	Chloromethane	0.75	ug/m3	0.71	09/12/16 12:26	
TO-15	Dichlorodifluoromethane	1.7	ug/m3	1.7	09/12/16 12:26	
TO-15	Ethanol	4.6	ug/m3	1.6	09/12/16 12:26	
TO-15	Methylene Chloride	2.9J	ug/m3	5.9	09/12/16 12:26	
TO-15	Naphthalene	13.8	ug/m3	4.5	09/12/16 12:26	
TO-15	Toluene	23.3	ug/m3	1.3	09/12/16 12:26	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	1.9	09/12/16 12:26	
TO-15	m&p-Xylene	1.1J	ug/m3	3.0	09/12/16 12:26	
TO-15	n-Hexane	0.92J	ug/m3	1.2	09/12/16 12:26	
10362022002	IA1-15710P-20160907					
TO-15	1,2,4-Trimethylbenzene	1.7	ug/m3	1.7	09/12/16 12:54	CH
TO-15	1,2-Dichloroethane	3.3	ug/m3	1.4	09/12/16 12:54	
TO-15	2-Butanone (MEK)	3.9J	ug/m3	5.0	09/12/16 12:54	CH,L1
TO-15	2-Propanol	16.4	ug/m3	4.2	09/12/16 12:54	
TO-15	Acetone	48.0	ug/m3	4.1	09/12/16 12:54	
TO-15	Benzene	0.35J	ug/m3	0.55	09/12/16 12:54	
TO-15	Carbon disulfide	1.0J	ug/m3	1.1	09/12/16 12:54	
TO-15	Chloroethane	5.2	ug/m3	0.91	09/12/16 12:54	
TO-15	Cyclohexane	1.7	ug/m3	1.2	09/12/16 12:54	
TO-15	Dichlorodifluoromethane	2.5	ug/m3	1.7	09/12/16 12:54	
TO-15	Ethanol	1650	ug/m3	1.6	09/12/16 12:54	E
TO-15	Ethyl acetate	4.6	ug/m3	1.2	09/12/16 12:54	
TO-15	Methylene Chloride	2.1J	ug/m3	5.9	09/12/16 12:54	
TO-15	Naphthalene	4.4J	ug/m3	4.5	09/12/16 12:54	
TO-15	Tetrachloroethene	3.0	ug/m3	1.2	09/12/16 12:54	
TO-15	Tetrahydrofuran	1.7	ug/m3	1.0	09/12/16 12:54	
TO-15	Toluene	11.4	ug/m3	1.3	09/12/16 12:54	
TO-15	Trichloroethene	1.7	ug/m3	0.92	09/12/16 12:54	
TO-15	Trichlorofluoromethane	1.6J	ug/m3	1.9	09/12/16 12:54	
TO-15	Vinyl acetate	2.6	ug/m3	1.2	09/12/16 12:54	
TO-15	m&p-Xylene	2.7J	ug/m3	3.0	09/12/16 12:54	
TO-15	n-Heptane	7.1	ug/m3	1.4	09/12/16 12:54	
TO-15	n-Hexane	0.94J	ug/m3	1.2	09/12/16 12:54	
TO-15	o-Xylene	1.1J	ug/m3	1.5	09/12/16 12:54	
10362022003	IA2-15608P-20160907					
TO-15	1,2-Dichloroethane	5.2	ug/m3	1.4	09/12/16 13:42	
TO-15	2-Butanone (MEK)	4.2J	ug/m3	5.0	09/12/16 13:42	CH,L1
TO-15	2-Propanol	8.4	ug/m3	4.2	09/12/16 13:42	
TO-15	Acetone	24.0	ug/m3	4.1	09/12/16 13:42	
TO-15	Carbon tetrachloride	1.5	ug/m3	1.1	09/12/16 13:42	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10362022003	IA2-15608P-20160907					
TO-15	Chloromethane	0.64J	ug/m3	0.71	09/12/16 13:42	
TO-15	Cyclohexane	2.1	ug/m3	1.2	09/12/16 13:42	
TO-15	Dichlorodifluoromethane	1.8	ug/m3	1.7	09/12/16 13:42	
TO-15	Ethanol	108	ug/m3	1.6	09/12/16 13:42	
TO-15	Methylene Chloride	3.9J	ug/m3	5.9	09/12/16 13:42	
TO-15	Naphthalene	9.8	ug/m3	4.5	09/12/16 13:42	
TO-15	Toluene	2.8	ug/m3	1.3	09/12/16 13:42	
TO-15	Trichlorofluoromethane	1.6J	ug/m3	1.9	09/12/16 13:42	
TO-15	Vinyl acetate	2.4	ug/m3	1.2	09/12/16 13:42	
TO-15	n-Hexane	0.91J	ug/m3	1.2	09/12/16 13:42	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362022

Method: TO-15
Description: TO15 MSV AIR
Client: UPRR_CH2M Hill
Date: September 12, 2016

General Information:

3 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 435199

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- IA1-15710P-20160907 (Lab ID: 10362022002)
 - 1,2,4-Trimethylbenzene
 - 2-Butanone (MEK)
- IA2-15608P-20160907 (Lab ID: 10362022003)
 - 2-Butanone (MEK)
- LCS (Lab ID: 2365562)
 - 1,2,4-Trimethylbenzene
 - 1,3,5-Trimethylbenzene
 - 2-Butanone (MEK)
 - 4-Ethyltoluene
 - Benzyl chloride
 - Bromoform
 - Styrene
 - trans-1,3-Dichloropropene
- OA1-15710P-20160907 (Lab ID: 10362022001)
 - 1,2,4-Trimethylbenzene
 - 2-Butanone (MEK)

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 435199

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

- LCS (Lab ID: 2365562)

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Method: TO-15

Description: TO15 MSV AIR

Client: UPRR_CH2M Hill

Date: September 12, 2016

QC Batch: 435199

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

- 2-Butanone (MEK)

Additional Comments:

Analyte Comments:

QC Batch: 435199

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- IA1-15710P-20160907 (Lab ID: 10362022002)
- Ethanol

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Sample: **OA1-15710P-20160907** Lab ID: **10362022001** Collected: 09/08/16 16:45 Received: 09/09/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.16	ug/m3	1.9	0.16	1.68		09/12/16 12:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.35	ug/m3	1.2	0.35	1.68		09/12/16 12:26	79-34-5	
1,1,2-Trichloroethane	<0.12	ug/m3	0.92	0.12	1.68		09/12/16 12:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.25	ug/m3	2.7	0.25	1.68		09/12/16 12:26	76-13-1	
1,1-Dichloroethane	<0.11	ug/m3	1.4	0.11	1.68		09/12/16 12:26	75-34-3	
1,1-Dichloroethene	<0.11	ug/m3	1.4	0.11	1.68		09/12/16 12:26	75-35-4	
1,2,4-Trichlorobenzene	<0.70	ug/m3	6.3	0.70	1.68		09/12/16 12:26	120-82-1	
1,2,4-Trimethylbenzene	2.5	ug/m3	1.7	0.17	1.68		09/12/16 12:26	95-63-6	CH
1,2-Dibromoethane (EDB)	<0.20	ug/m3	2.6	0.20	1.68		09/12/16 12:26	106-93-4	
1,2-Dichlorobenzene	<0.31	ug/m3	2.0	0.31	1.68		09/12/16 12:26	95-50-1	
1,2-Dichloroethane	<0.12	ug/m3	1.4	0.12	1.68		09/12/16 12:26	107-06-2	
1,2-Dichloropropane	<0.25	ug/m3	1.6	0.25	1.68		09/12/16 12:26	78-87-5	
1,3,5-Trimethylbenzene	<0.40	ug/m3	1.7	0.40	1.68		09/12/16 12:26	108-67-8	
1,3-Butadiene	<0.10	ug/m3	0.76	0.10	1.68		09/12/16 12:26	106-99-0	
1,3-Dichlorobenzene	<0.18	ug/m3	2.0	0.18	1.68		09/12/16 12:26	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/m3	2.0	0.15	1.68		09/12/16 12:26	106-46-7	
2-Butanone (MEK)	1.1J	ug/m3	5.0	0.50	1.68		09/12/16 12:26	78-93-3	CH,L1
2-Hexanone	<0.70	ug/m3	7.0	0.70	1.68		09/12/16 12:26	591-78-6	
2-Propanol	2.2J	ug/m3	4.2	0.41	1.68		09/12/16 12:26	67-63-0	
4-Ethyltoluene	<0.15	ug/m3	1.7	0.15	1.68		09/12/16 12:26	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.46	ug/m3	7.0	0.46	1.68		09/12/16 12:26	108-10-1	
Acetone	7.8	ug/m3	4.1	1.5	1.68		09/12/16 12:26	67-64-1	
Benzene	0.97	ug/m3	0.55	0.15	1.68		09/12/16 12:26	71-43-2	
Benzyl chloride	<0.37	ug/m3	1.8	0.37	1.68		09/12/16 12:26	100-44-7	
Bromodichloromethane	<0.30	ug/m3	2.3	0.30	1.68		09/12/16 12:26	75-27-4	
Bromoform	<0.44	ug/m3	3.5	0.44	1.68		09/12/16 12:26	75-25-2	
Bromomethane	<0.19	ug/m3	1.3	0.19	1.68		09/12/16 12:26	74-83-9	
Carbon disulfide	<0.10	ug/m3	1.1	0.10	1.68		09/12/16 12:26	75-15-0	
Carbon tetrachloride	<0.28	ug/m3	1.1	0.28	1.68		09/12/16 12:26	56-23-5	
Chlorobenzene	6.6	ug/m3	1.6	0.18	1.68		09/12/16 12:26	108-90-7	
Chloroethane	<0.23	ug/m3	0.91	0.23	1.68		09/12/16 12:26	75-00-3	
Chloroform	<0.18	ug/m3	0.83	0.18	1.68		09/12/16 12:26	67-66-3	
Chloromethane	0.75	ug/m3	0.71	0.074	1.68		09/12/16 12:26	74-87-3	
Cyclohexane	<0.23	ug/m3	1.2	0.23	1.68		09/12/16 12:26	110-82-7	
Dibromochloromethane	<0.32	ug/m3	2.9	0.32	1.68		09/12/16 12:26	124-48-1	
Dichlorodifluoromethane	1.7	ug/m3	1.7	0.13	1.68		09/12/16 12:26	75-71-8	
Dichlorotetrafluoroethane	<0.17	ug/m3	2.4	0.17	1.68		09/12/16 12:26	76-14-2	
Ethanol	4.6	ug/m3	1.6	0.58	1.68		09/12/16 12:26	64-17-5	
Ethyl acetate	<0.36	ug/m3	1.2	0.36	1.68		09/12/16 12:26	141-78-6	
Hexachloro-1,3-butadiene	<0.62	ug/m3	3.6	0.62	1.68		09/12/16 12:26	87-68-3	
Methyl-tert-butyl ether	<0.61	ug/m3	6.2	0.61	1.68		09/12/16 12:26	1634-04-4	
Methylene Chloride	2.9J	ug/m3	5.9	0.33	1.68		09/12/16 12:26	75-09-2	
Naphthalene	13.8	ug/m3	4.5	0.53	1.68		09/12/16 12:26	91-20-3	
Propylene	<0.097	ug/m3	0.59	0.097	1.68		09/12/16 12:26	115-07-1	
Styrene	<0.12	ug/m3	1.5	0.12	1.68		09/12/16 12:26	100-42-5	
Tetrachloroethene	<0.24	ug/m3	1.2	0.24	1.68		09/12/16 12:26	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Sample: OA1-15710P-20160907 **Lab ID: 10362022001** Collected: 09/08/16 16:45 Received: 09/09/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.18	ug/m3	1.0	0.18	1.68		09/12/16 12:26	109-99-9	
Toluene	23.3	ug/m3	1.3	0.39	1.68		09/12/16 12:26	108-88-3	
Trichloroethene	<0.23	ug/m3	0.92	0.23	1.68		09/12/16 12:26	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.9	0.15	1.68		09/12/16 12:26	75-69-4	
Vinyl acetate	<0.25	ug/m3	1.2	0.25	1.68		09/12/16 12:26	108-05-4	
Vinyl chloride	<0.096	ug/m3	0.44	0.096	1.68		09/12/16 12:26	75-01-4	
cis-1,2-Dichloroethene	<0.15	ug/m3	1.4	0.15	1.68		09/12/16 12:26	156-59-2	
cis-1,3-Dichloropropene	<0.19	ug/m3	1.5	0.19	1.68		09/12/16 12:26	10061-01-5	
m&p-Xylene	1.1J	ug/m3	3.0	0.62	1.68		09/12/16 12:26	179601-23-1	
n-Heptane	<0.29	ug/m3	1.4	0.29	1.68		09/12/16 12:26	142-82-5	
n-Hexane	0.92J	ug/m3	1.2	0.34	1.68		09/12/16 12:26	110-54-3	
o-Xylene	<0.42	ug/m3	1.5	0.42	1.68		09/12/16 12:26	95-47-6	
trans-1,2-Dichloroethene	<0.18	ug/m3	1.4	0.18	1.68		09/12/16 12:26	156-60-5	
trans-1,3-Dichloropropene	<0.22	ug/m3	1.5	0.22	1.68		09/12/16 12:26	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Sample: IA1-15710P-20160907 Lab ID: 10362022002 Collected: 09/08/16 16:41 Received: 09/09/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.16	ug/m3	1.9	0.16	1.68		09/12/16 12:54	71-55-6	
1,1,2,2-Tetrachloroethane	<0.35	ug/m3	1.2	0.35	1.68		09/12/16 12:54	79-34-5	
1,1,2-Trichloroethane	<0.12	ug/m3	0.92	0.12	1.68		09/12/16 12:54	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.25	ug/m3	2.7	0.25	1.68		09/12/16 12:54	76-13-1	
1,1-Dichloroethane	<0.11	ug/m3	1.4	0.11	1.68		09/12/16 12:54	75-34-3	
1,1-Dichloroethene	<0.11	ug/m3	1.4	0.11	1.68		09/12/16 12:54	75-35-4	
1,2,4-Trichlorobenzene	<0.70	ug/m3	6.3	0.70	1.68		09/12/16 12:54	120-82-1	
1,2,4-Trimethylbenzene	1.7	ug/m3	1.7	0.17	1.68		09/12/16 12:54	95-63-6	CH
1,2-Dibromoethane (EDB)	<0.20	ug/m3	2.6	0.20	1.68		09/12/16 12:54	106-93-4	
1,2-Dichlorobenzene	<0.31	ug/m3	2.0	0.31	1.68		09/12/16 12:54	95-50-1	
1,2-Dichloroethane	3.3	ug/m3	1.4	0.12	1.68		09/12/16 12:54	107-06-2	
1,2-Dichloropropane	<0.25	ug/m3	1.6	0.25	1.68		09/12/16 12:54	78-87-5	
1,3,5-Trimethylbenzene	<0.40	ug/m3	1.7	0.40	1.68		09/12/16 12:54	108-67-8	
1,3-Butadiene	<0.10	ug/m3	0.76	0.10	1.68		09/12/16 12:54	106-99-0	
1,3-Dichlorobenzene	<0.18	ug/m3	2.0	0.18	1.68		09/12/16 12:54	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/m3	2.0	0.15	1.68		09/12/16 12:54	106-46-7	
2-Butanone (MEK)	3.9J	ug/m3	5.0	0.50	1.68		09/12/16 12:54	78-93-3	CH,L1
2-Hexanone	<0.70	ug/m3	7.0	0.70	1.68		09/12/16 12:54	591-78-6	
2-Propanol	16.4	ug/m3	4.2	0.41	1.68		09/12/16 12:54	67-63-0	
4-Ethyltoluene	<0.15	ug/m3	1.7	0.15	1.68		09/12/16 12:54	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.46	ug/m3	7.0	0.46	1.68		09/12/16 12:54	108-10-1	
Acetone	48.0	ug/m3	4.1	1.5	1.68		09/12/16 12:54	67-64-1	
Benzene	0.35J	ug/m3	0.55	0.15	1.68		09/12/16 12:54	71-43-2	
Benzyl chloride	<0.37	ug/m3	1.8	0.37	1.68		09/12/16 12:54	100-44-7	
Bromodichloromethane	<0.30	ug/m3	2.3	0.30	1.68		09/12/16 12:54	75-27-4	
Bromoform	<0.44	ug/m3	3.5	0.44	1.68		09/12/16 12:54	75-25-2	
Bromomethane	<0.19	ug/m3	1.3	0.19	1.68		09/12/16 12:54	74-83-9	
Carbon disulfide	1.0J	ug/m3	1.1	0.10	1.68		09/12/16 12:54	75-15-0	
Carbon tetrachloride	<0.28	ug/m3	1.1	0.28	1.68		09/12/16 12:54	56-23-5	
Chlorobenzene	<0.18	ug/m3	1.6	0.18	1.68		09/12/16 12:54	108-90-7	
Chloroethane	5.2	ug/m3	0.91	0.23	1.68		09/12/16 12:54	75-00-3	
Chloroform	<0.18	ug/m3	0.83	0.18	1.68		09/12/16 12:54	67-66-3	
Chloromethane	<0.074	ug/m3	0.71	0.074	1.68		09/12/16 12:54	74-87-3	
Cyclohexane	1.7	ug/m3	1.2	0.23	1.68		09/12/16 12:54	110-82-7	
Dibromochloromethane	<0.32	ug/m3	2.9	0.32	1.68		09/12/16 12:54	124-48-1	
Dichlorodifluoromethane	2.5	ug/m3	1.7	0.13	1.68		09/12/16 12:54	75-71-8	
Dichlorotetrafluoroethane	<0.17	ug/m3	2.4	0.17	1.68		09/12/16 12:54	76-14-2	
Ethanol	1650	ug/m3	1.6	0.58	1.68		09/12/16 12:54	64-17-5	E
Ethyl acetate	4.6	ug/m3	1.2	0.36	1.68		09/12/16 12:54	141-78-6	
Hexachloro-1,3-butadiene	<0.62	ug/m3	3.6	0.62	1.68		09/12/16 12:54	87-68-3	
Methyl-tert-butyl ether	<0.61	ug/m3	6.2	0.61	1.68		09/12/16 12:54	1634-04-4	
Methylene Chloride	2.1J	ug/m3	5.9	0.33	1.68		09/12/16 12:54	75-09-2	
Naphthalene	4.4J	ug/m3	4.5	0.53	1.68		09/12/16 12:54	91-20-3	
Propylene	<0.097	ug/m3	0.59	0.097	1.68		09/12/16 12:54	115-07-1	
Styrene	<0.12	ug/m3	1.5	0.12	1.68		09/12/16 12:54	100-42-5	
Tetrachloroethene	3.0	ug/m3	1.2	0.24	1.68		09/12/16 12:54	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Sample: IA1-15710P-20160907 **Lab ID: 10362022002** Collected: 09/08/16 16:41 Received: 09/09/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.7	ug/m3	1.0	0.18	1.68		09/12/16 12:54	109-99-9	
Toluene	11.4	ug/m3	1.3	0.39	1.68		09/12/16 12:54	108-88-3	
Trichloroethene	1.7	ug/m3	0.92	0.23	1.68		09/12/16 12:54	79-01-6	
Trichlorofluoromethane	1.6J	ug/m3	1.9	0.15	1.68		09/12/16 12:54	75-69-4	
Vinyl acetate	2.6	ug/m3	1.2	0.25	1.68		09/12/16 12:54	108-05-4	
Vinyl chloride	<0.096	ug/m3	0.44	0.096	1.68		09/12/16 12:54	75-01-4	
cis-1,2-Dichloroethene	<0.15	ug/m3	1.4	0.15	1.68		09/12/16 12:54	156-59-2	
cis-1,3-Dichloropropene	<0.19	ug/m3	1.5	0.19	1.68		09/12/16 12:54	10061-01-5	
m&p-Xylene	2.7J	ug/m3	3.0	0.62	1.68		09/12/16 12:54	179601-23-1	
n-Heptane	7.1	ug/m3	1.4	0.29	1.68		09/12/16 12:54	142-82-5	
n-Hexane	0.94J	ug/m3	1.2	0.34	1.68		09/12/16 12:54	110-54-3	
o-Xylene	1.1J	ug/m3	1.5	0.42	1.68		09/12/16 12:54	95-47-6	
trans-1,2-Dichloroethene	<0.18	ug/m3	1.4	0.18	1.68		09/12/16 12:54	156-60-5	
trans-1,3-Dichloropropene	<0.22	ug/m3	1.5	0.22	1.68		09/12/16 12:54	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10362022

Sample: IA2-15608P-20160907 Lab ID: 10362022003 Collected: 09/08/16 16:41 Received: 09/09/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.16	ug/m3	1.9	0.16	1.68		09/12/16 13:42	71-55-6	
1,1,2,2-Tetrachloroethane	<0.35	ug/m3	1.2	0.35	1.68		09/12/16 13:42	79-34-5	
1,1,2-Trichloroethane	<0.12	ug/m3	0.92	0.12	1.68		09/12/16 13:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.25	ug/m3	2.7	0.25	1.68		09/12/16 13:42	76-13-1	
1,1-Dichloroethane	<0.11	ug/m3	1.4	0.11	1.68		09/12/16 13:42	75-34-3	
1,1-Dichloroethene	<0.11	ug/m3	1.4	0.11	1.68		09/12/16 13:42	75-35-4	
1,2,4-Trichlorobenzene	<0.70	ug/m3	6.3	0.70	1.68		09/12/16 13:42	120-82-1	
1,2,4-Trimethylbenzene	<0.17	ug/m3	1.7	0.17	1.68		09/12/16 13:42	95-63-6	
1,2-Dibromoethane (EDB)	<0.20	ug/m3	2.6	0.20	1.68		09/12/16 13:42	106-93-4	
1,2-Dichlorobenzene	<0.31	ug/m3	2.0	0.31	1.68		09/12/16 13:42	95-50-1	
1,2-Dichloroethane	5.2	ug/m3	1.4	0.12	1.68		09/12/16 13:42	107-06-2	
1,2-Dichloropropane	<0.25	ug/m3	1.6	0.25	1.68		09/12/16 13:42	78-87-5	
1,3,5-Trimethylbenzene	<0.40	ug/m3	1.7	0.40	1.68		09/12/16 13:42	108-67-8	
1,3-Butadiene	<0.10	ug/m3	0.76	0.10	1.68		09/12/16 13:42	106-99-0	
1,3-Dichlorobenzene	<0.18	ug/m3	2.0	0.18	1.68		09/12/16 13:42	541-73-1	
1,4-Dichlorobenzene	<0.15	ug/m3	2.0	0.15	1.68		09/12/16 13:42	106-46-7	
2-Butanone (MEK)	4.2J	ug/m3	5.0	0.50	1.68		09/12/16 13:42	78-93-3	CH,L1
2-Hexanone	<0.70	ug/m3	7.0	0.70	1.68		09/12/16 13:42	591-78-6	
2-Propanol	8.4	ug/m3	4.2	0.41	1.68		09/12/16 13:42	67-63-0	
4-Ethyltoluene	<0.15	ug/m3	1.7	0.15	1.68		09/12/16 13:42	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.46	ug/m3	7.0	0.46	1.68		09/12/16 13:42	108-10-1	
Acetone	24.0	ug/m3	4.1	1.5	1.68		09/12/16 13:42	67-64-1	
Benzene	<0.15	ug/m3	0.55	0.15	1.68		09/12/16 13:42	71-43-2	
Benzyl chloride	<0.37	ug/m3	1.8	0.37	1.68		09/12/16 13:42	100-44-7	
Bromodichloromethane	<0.30	ug/m3	2.3	0.30	1.68		09/12/16 13:42	75-27-4	
Bromoform	<0.44	ug/m3	3.5	0.44	1.68		09/12/16 13:42	75-25-2	
Bromomethane	<0.19	ug/m3	1.3	0.19	1.68		09/12/16 13:42	74-83-9	
Carbon disulfide	<0.10	ug/m3	1.1	0.10	1.68		09/12/16 13:42	75-15-0	
Carbon tetrachloride	1.5	ug/m3	1.1	0.28	1.68		09/12/16 13:42	56-23-5	
Chlorobenzene	<0.18	ug/m3	1.6	0.18	1.68		09/12/16 13:42	108-90-7	
Chloroethane	<0.23	ug/m3	0.91	0.23	1.68		09/12/16 13:42	75-00-3	
Chloroform	<0.18	ug/m3	0.83	0.18	1.68		09/12/16 13:42	67-66-3	
Chloromethane	0.64J	ug/m3	0.71	0.074	1.68		09/12/16 13:42	74-87-3	
Cyclohexane	2.1	ug/m3	1.2	0.23	1.68		09/12/16 13:42	110-82-7	
Dibromochloromethane	<0.32	ug/m3	2.9	0.32	1.68		09/12/16 13:42	124-48-1	
Dichlorodifluoromethane	1.8	ug/m3	1.7	0.13	1.68		09/12/16 13:42	75-71-8	
Dichlorotetrafluoroethane	<0.17	ug/m3	2.4	0.17	1.68		09/12/16 13:42	76-14-2	
Ethanol	108	ug/m3	1.6	0.58	1.68		09/12/16 13:42	64-17-5	
Ethyl acetate	<0.36	ug/m3	1.2	0.36	1.68		09/12/16 13:42	141-78-6	
Hexachloro-1,3-butadiene	<0.62	ug/m3	3.6	0.62	1.68		09/12/16 13:42	87-68-3	
Methyl-tert-butyl ether	<0.61	ug/m3	6.2	0.61	1.68		09/12/16 13:42	1634-04-4	
Methylene Chloride	3.9J	ug/m3	5.9	0.33	1.68		09/12/16 13:42	75-09-2	
Naphthalene	9.8	ug/m3	4.5	0.53	1.68		09/12/16 13:42	91-20-3	
Propylene	<0.097	ug/m3	0.59	0.097	1.68		09/12/16 13:42	115-07-1	
Styrene	<0.12	ug/m3	1.5	0.12	1.68		09/12/16 13:42	100-42-5	
Tetrachloroethene	<0.24	ug/m3	1.2	0.24	1.68		09/12/16 13:42	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Sample: IA2-15608P-20160907 **Lab ID: 10362022003** Collected: 09/08/16 16:41 Received: 09/09/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.18	ug/m3	1.0	0.18	1.68		09/12/16 13:42	109-99-9	
Toluene	2.8	ug/m3	1.3	0.39	1.68		09/12/16 13:42	108-88-3	
Trichloroethene	<0.23	ug/m3	0.92	0.23	1.68		09/12/16 13:42	79-01-6	
Trichlorofluoromethane	1.6J	ug/m3	1.9	0.15	1.68		09/12/16 13:42	75-69-4	
Vinyl acetate	2.4	ug/m3	1.2	0.25	1.68		09/12/16 13:42	108-05-4	
Vinyl chloride	<0.096	ug/m3	0.44	0.096	1.68		09/12/16 13:42	75-01-4	
cis-1,2-Dichloroethene	<0.15	ug/m3	1.4	0.15	1.68		09/12/16 13:42	156-59-2	
cis-1,3-Dichloropropene	<0.19	ug/m3	1.5	0.19	1.68		09/12/16 13:42	10061-01-5	
m&p-Xylene	<0.62	ug/m3	3.0	0.62	1.68		09/12/16 13:42	179601-23-1	
n-Heptane	<0.29	ug/m3	1.4	0.29	1.68		09/12/16 13:42	142-82-5	
n-Hexane	0.91J	ug/m3	1.2	0.34	1.68		09/12/16 13:42	110-54-3	
o-Xylene	<0.42	ug/m3	1.5	0.42	1.68		09/12/16 13:42	95-47-6	
trans-1,2-Dichloroethene	<0.18	ug/m3	1.4	0.18	1.68		09/12/16 13:42	156-60-5	
trans-1,3-Dichloropropene	<0.22	ug/m3	1.5	0.22	1.68		09/12/16 13:42	10061-02-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

QC Batch: 435199 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10362022001, 10362022002, 10362022003

METHOD BLANK: 2365561 Matrix: Air

Associated Lab Samples: 10362022001, 10362022002, 10362022003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.094	1.1	0.094	09/12/16 09:22	
1,1,2,2-Tetrachloroethane	ug/m3	<0.21	0.70	0.21	09/12/16 09:22	
1,1,2-Trichloroethane	ug/m3	<0.072	0.55	0.072	09/12/16 09:22	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.15	1.6	0.15	09/12/16 09:22	
1,1-Dichloroethane	ug/m3	<0.066	0.82	0.066	09/12/16 09:22	
1,1-Dichloroethene	ug/m3	<0.064	0.81	0.064	09/12/16 09:22	
1,2,4-Trichlorobenzene	ug/m3	<0.42	3.8	0.42	09/12/16 09:22	
1,2,4-Trimethylbenzene	ug/m3	<0.10	1.0	0.10	09/12/16 09:22	
1,2-Dibromoethane (EDB)	ug/m3	<0.12	1.6	0.12	09/12/16 09:22	
1,2-Dichlorobenzene	ug/m3	<0.18	1.2	0.18	09/12/16 09:22	
1,2-Dichloroethane	ug/m3	<0.070	0.82	0.070	09/12/16 09:22	
1,2-Dichloropropane	ug/m3	<0.15	0.94	0.15	09/12/16 09:22	
1,3,5-Trimethylbenzene	ug/m3	<0.24	1.0	0.24	09/12/16 09:22	
1,3-Butadiene	ug/m3	<0.061	0.45	0.061	09/12/16 09:22	
1,3-Dichlorobenzene	ug/m3	<0.11	1.2	0.11	09/12/16 09:22	
1,4-Dichlorobenzene	ug/m3	<0.092	1.2	0.092	09/12/16 09:22	
2-Butanone (MEK)	ug/m3	<0.30	3.0	0.30	09/12/16 09:22	
2-Hexanone	ug/m3	<0.42	4.2	0.42	09/12/16 09:22	
2-Propanol	ug/m3	<0.24	2.5	0.24	09/12/16 09:22	
4-Ethyltoluene	ug/m3	<0.090	1.0	0.090	09/12/16 09:22	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.27	4.2	0.27	09/12/16 09:22	
Acetone	ug/m3	<0.87	2.4	0.87	09/12/16 09:22	
Benzene	ug/m3	<0.091	0.32	0.091	09/12/16 09:22	
Benzyl chloride	ug/m3	<0.22	1.0	0.22	09/12/16 09:22	
Bromodichloromethane	ug/m3	<0.18	1.4	0.18	09/12/16 09:22	
Bromoform	ug/m3	<0.26	2.1	0.26	09/12/16 09:22	
Bromomethane	ug/m3	<0.11	0.79	0.11	09/12/16 09:22	
Carbon disulfide	ug/m3	<0.060	0.63	0.060	09/12/16 09:22	
Carbon tetrachloride	ug/m3	<0.17	0.64	0.17	09/12/16 09:22	
Chlorobenzene	ug/m3	<0.11	0.94	0.11	09/12/16 09:22	
Chloroethane	ug/m3	<0.14	0.54	0.14	09/12/16 09:22	
Chloroform	ug/m3	<0.11	0.50	0.11	09/12/16 09:22	
Chloromethane	ug/m3	<0.044	0.42	0.044	09/12/16 09:22	
cis-1,2-Dichloroethene	ug/m3	<0.089	0.81	0.089	09/12/16 09:22	
cis-1,3-Dichloropropene	ug/m3	<0.11	0.92	0.11	09/12/16 09:22	
Cyclohexane	ug/m3	<0.14	0.70	0.14	09/12/16 09:22	
Dibromochloromethane	ug/m3	<0.19	1.7	0.19	09/12/16 09:22	
Dichlorodifluoromethane	ug/m3	<0.075	1.0	0.075	09/12/16 09:22	
Dichlorotetrafluoroethane	ug/m3	<0.099	1.4	0.099	09/12/16 09:22	
Ethanol	ug/m3	<0.34	0.96	0.34	09/12/16 09:22	
Ethyl acetate	ug/m3	<0.21	0.73	0.21	09/12/16 09:22	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

METHOD BLANK: 2365561

Matrix: Air

Associated Lab Samples: 10362022001, 10362022002, 10362022003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/m3	<0.37	2.2	0.37	09/12/16 09:22	
m&p-Xylene	ug/m3	<0.37	1.8	0.37	09/12/16 09:22	
Methyl-tert-butyl ether	ug/m3	<0.37	3.7	0.37	09/12/16 09:22	
Methylene Chloride	ug/m3	<0.19	3.5	0.19	09/12/16 09:22	
n-Heptane	ug/m3	<0.18	0.83	0.18	09/12/16 09:22	
n-Hexane	ug/m3	<0.20	0.72	0.20	09/12/16 09:22	
Naphthalene	ug/m3	<0.31	2.7	0.31	09/12/16 09:22	
o-Xylene	ug/m3	<0.25	0.88	0.25	09/12/16 09:22	
Propylene	ug/m3	<0.058	0.35	0.058	09/12/16 09:22	
Styrene	ug/m3	<0.069	0.87	0.069	09/12/16 09:22	
Tetrachloroethene	ug/m3	<0.14	0.69	0.14	09/12/16 09:22	
Tetrahydrofuran	ug/m3	<0.11	0.60	0.11	09/12/16 09:22	
Toluene	ug/m3	<0.23	0.77	0.23	09/12/16 09:22	
trans-1,2-Dichloroethene	ug/m3	<0.11	0.81	0.11	09/12/16 09:22	
trans-1,3-Dichloropropene	ug/m3	<0.13	0.92	0.13	09/12/16 09:22	
Trichloroethene	ug/m3	<0.14	0.55	0.14	09/12/16 09:22	
Trichlorofluoromethane	ug/m3	<0.091	1.1	0.091	09/12/16 09:22	
Vinyl acetate	ug/m3	<0.15	0.72	0.15	09/12/16 09:22	
Vinyl chloride	ug/m3	<0.057	0.26	0.057	09/12/16 09:22	

LABORATORY CONTROL SAMPLE: 2365562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	62.7	113	60-143	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	82.5	118	49-150	
1,1,2-Trichloroethane	ug/m3	55.5	64.3	116	57-149	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	91.5	117	66-131	
1,1-Dichloroethane	ug/m3	41.2	49.3	120	62-139	
1,1-Dichloroethene	ug/m3	40.3	47.8	119	62-135	
1,2,4-Trichlorobenzene	ug/m3	75.5	79.0	105	55-146	
1,2,4-Trimethylbenzene	ug/m3	50	65.9	132	57-143	CH
1,2-Dibromoethane (EDB)	ug/m3	78.1	94.4	121	63-150	
1,2-Dichlorobenzene	ug/m3	61.2	77.0	126	57-141	
1,2-Dichloroethane	ug/m3	41.2	47.8	116	61-144	
1,2-Dichloropropane	ug/m3	47	50.6	108	63-144	
1,3,5-Trimethylbenzene	ug/m3	50	65.2	130	54-147	CH
1,3-Butadiene	ug/m3	22.5	26.6	118	61-140	
1,3-Dichlorobenzene	ug/m3	61.2	78.9	129	51-150	
1,4-Dichlorobenzene	ug/m3	61.2	78.7	129	57-143	
2-Butanone (MEK)	ug/m3	30	43.5	145	66-144	CH,L1
2-Hexanone	ug/m3	104	112	107	63-147	
2-Propanol	ug/m3	125	152	122	54-146	
4-Ethyltoluene	ug/m3	50	68.9	138	56-150	CH
4-Methyl-2-pentanone (MIBK)	ug/m3	104	105	101	58-150	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

LABORATORY CONTROL SAMPLE: 2365562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/m3	121	139	115	46-140	
Benzene	ug/m3	32.5	36.9	113	62-141	
Benzyl chloride	ug/m3	52.5	71.0	135	66-138	CH
Bromodichloromethane	ug/m3	68.2	80.4	118	58-149	
Bromoform	ug/m3	105	148	141	61-150	CH
Bromomethane	ug/m3	39.5	48.0	122	58-136	
Carbon disulfide	ug/m3	31.7	39.4	124	59-135	
Carbon tetrachloride	ug/m3	64	78.5	123	60-149	
Chlorobenzene	ug/m3	46.8	56.1	120	60-150	
Chloroethane	ug/m3	26.8	33.1	124	61-136	
Chloroform	ug/m3	49.7	59.9	121	65-138	
Chloromethane	ug/m3	21	23.6	112	62-133	
cis-1,2-Dichloroethene	ug/m3	40.3	49.6	123	65-139	
cis-1,3-Dichloropropene	ug/m3	46.2	56.8	123	61-149	
Cyclohexane	ug/m3	35	36.5	104	64-134	
Dibromochloromethane	ug/m3	86.6	107	124	59-150	
Dichlorodifluoromethane	ug/m3	50.3	58.4	116	63-134	
Dichlorotetrafluoroethane	ug/m3	71.1	82.0	115	62-134	
Ethanol	ug/m3	95.8	124	129	50-144	
Ethyl acetate	ug/m3	36.6	42.7	117	55-146	
Hexachloro-1,3-butadiene	ug/m3	108	119	110	42-150	
m&p-Xylene	ug/m3	88.3	112	127	59-146	
Methyl-tert-butyl ether	ug/m3	91.6	112	122	64-135	
Methylene Chloride	ug/m3	177	168	95	64-128	
n-Heptane	ug/m3	41.7	40.5	97	64-140	
n-Hexane	ug/m3	35.8	39.0	109	50-138	
Naphthalene	ug/m3	53.3	56.2	105	46-146	
o-Xylene	ug/m3	44.2	53.7	122	54-149	
Propylene	ug/m3	17.5	19.3	110	58-135	
Styrene	ug/m3	43.3	57.7	133	54-150	CH
Tetrachloroethene	ug/m3	69	79.7	116	60-142	
Tetrahydrofuran	ug/m3	30	36.3	121	56-143	
Toluene	ug/m3	38.3	44.5	116	61-138	
trans-1,2-Dichloroethene	ug/m3	40.3	49.7	123	67-137	
trans-1,3-Dichloropropene	ug/m3	46.2	61.0	132	59-145	CH
Trichloroethene	ug/m3	54.6	60.8	111	60-144	
Trichlorofluoromethane	ug/m3	57.1	67.3	118	59-134	
Vinyl acetate	ug/m3	35.8	46.5	130	55-143	
Vinyl chloride	ug/m3	26	30.8	118	63-135	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362022

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10362022001	OA1-15710P-20160907	TO-15	435199		
10362022002	IA1-15710P-20160907	TO-15	435199		
10362022003	IA2-15608P-20160907	TO-15	435199		

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AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10362022

28669

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Program	
Company: UPRR - Gary Honeyman		Report To: CH2M		Attention: Gary Honeyman		<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act	
Address: 221 Hedgeman Laramie, WY		Copy To: Steve Demius Mike Niemet		Company Name: UPRR		<input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Email To:		Purchase Order No.:		Address:		Location of Sampling by State: WA	
Phone:		Project Name: Freeman WA Canax Harvest		Pace Quote Reference:		Reporting Units ug/m ³ <input checked="" type="checkbox"/> mg/m ³ <input type="checkbox"/> PPBV <input type="checkbox"/> PPMV <input type="checkbox"/> Other <input type="checkbox"/>	
Requested Due Date/TAT: 24-Hour		Project Number: Lease Site		Pace Project Manager/Sales Rep. Jennifer Gross		Report Level: II. ___ III. ___ IV. ___ Other ___	

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE MEDIA Bag CODE Tedlar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method:								Pace Lab ID	
					COMPOSITE START END/GRAB		COMPOSITE -						PM10	3C Fixed Gas (%)	TD-3	TD-3M (Methane)	TD-4 (PCBs)	TD-13 (PAH)	TD-14	TD-15 - SIM		TD-15 Short List
					DATE	TIME	DATE	TIME														
1	OA1-15710P-20160907		6LC		9-7-16	17:52	9-8-16	16:45	-27.4	-3.61	1633	FC 0845										001, 004
2	IA1-15710P-20160907		6LC		9-7-16	18:00	9-8-16	16:41	-28.0	-4.74	121	FC 0843										002, 005
3	IA2-15608P-20160907		6LC		9-7-16	18:01	9-8-16	16:41	-23.0	-4.16	2294	FC 0849										003, 006
4	[Handwritten scribble]																					
5	[Handwritten scribble]																					
6	[Handwritten scribble]																					
7	[Handwritten scribble]																					
8	[Handwritten scribble]																					
9	[Handwritten scribble]																					
10	[Handwritten scribble]																					
11	[Handwritten scribble]																					
12	[Handwritten scribble]																					

Comments: - Full VOC List - 24-Hour TAT	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Eric Epfle / CH2M	9-7-16	18:00	[Signature]	9-16	1000	Amb	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
								<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
								<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: Eric Epfle					
SIGNATURE of SAMPLER: [Signature]					
DATE Signed (MM / DD / YY): 09/16/16					

ORIGINAL

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Air Sample Condition Upon Receipt

Client Name: UPRR - CH2M Project #: _____

WO#: 10362022

10362022

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other: _____

Tracking Number: 8104 0944 7982

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____ Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): 10 Corrected Temp (°C): 9 Thermom. Used: B88A912167504 B88A0143310098 151401163 151401164

Temp should be above freezing to 6°C Correction Factor: 0 Date & Initials of Person Examining Contents: 9/11/16

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7. <u>24hr</u>
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.

Samples Received:					
Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS Date: 09/12/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

September 14, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

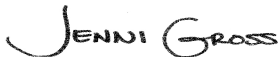
RE: Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362199

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Mike Niemet, CH2M Hill
Mark Ochsner, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362199

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10362199001	OA1-15710P-20160908	Air	09/09/16 15:37	09/13/16 10:00
10362199002	IA1-15710P-20160908	Air	09/09/16 16:32	09/13/16 10:00
10362199003	IA2-15608P-20160908	Air	09/09/16 16:38	09/13/16 10:00
10362199004	OA1-15809P-20160909	Air	09/10/16 16:02	09/13/16 10:00
10362199005	IA1-15809P-20160909	Air	09/10/16 16:00	09/13/16 10:00
10362199006	OA1-15710P-20160909	Air	09/10/16 16:07	09/13/16 10:00
10362199007	IA1-15710P-20160909	Air	09/10/16 16:06	09/13/16 10:00
10362199008	IA2-15608P-20160909	Air	09/10/16 16:10	09/13/16 10:00
10362199009	OA1-BACK-20160909	Air	09/10/16 17:08	09/13/16 10:00
10362199019	Unused CERT Can#1561	Air		09/13/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10362199001	OA1-15710P-20160908	TO-15	NCK	60	PASI-M
10362199002	IA1-15710P-20160908	TO-15	NCK	60	PASI-M
10362199003	IA2-15608P-20160908	TO-15	NCK	60	PASI-M
10362199004	OA1-15809P-20160909	TO-15	NCK	60	PASI-M
10362199005	IA1-15809P-20160909	TO-15	NCK	60	PASI-M
10362199006	OA1-15710P-20160909	TO-15	NCK	60	PASI-M
10362199007	IA1-15710P-20160909	TO-15	NCK	60	PASI-M
10362199008	IA2-15608P-20160909	TO-15	NCK	60	PASI-M
10362199009	OA1-BACK-20160909	TO-15	NCK	60	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10362199001	OA1-15710P-20160908					
TO-15	2-Butanone (MEK)	2.6J	ug/m3	4.8	09/14/16 10:17	
TO-15	2-Propanol	1.1J	ug/m3	4.0	09/14/16 10:17	
TO-15	Acetone	13.5	ug/m3	3.9	09/14/16 10:17	
TO-15	Chloromethane	0.83	ug/m3	0.68	09/14/16 10:17	
TO-15	Dichlorodifluoromethane	2.4	ug/m3	1.6	09/14/16 10:17	
TO-15	Ethanol	4.4	ug/m3	1.5	09/14/16 10:17	
TO-15	Methylene Chloride	1.4J	ug/m3	5.7	09/14/16 10:17	
TO-15	Naphthalene	12.5	ug/m3	4.3	09/14/16 10:17	
TO-15	Styrene	1.6J	ug/m3	3.5	09/14/16 10:17	
TO-15	Toluene	3.2	ug/m3	1.2	09/14/16 10:17	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	1.8	09/14/16 10:17	
TO-15	Vinyl acetate	0.94J	ug/m3	1.2	09/14/16 10:17	
TO-15	m&p-Xylene	3.3J	ug/m3	7.1	09/14/16 10:17	
TO-15	n-Hexane	0.70J	ug/m3	1.2	09/14/16 10:17	
TO-15	o-Xylene	1.3J	ug/m3	1.4	09/14/16 10:17	
10362199002	IA1-15710P-20160908					
TO-15	1,2,4-Trimethylbenzene	2.6J	ug/m3	4.0	09/14/16 10:48	
TO-15	1,2-Dichloroethane	3.1	ug/m3	0.66	09/14/16 10:48	
TO-15	1,3,5-Trimethylbenzene	2.1J	ug/m3	4.0	09/14/16 10:48	
TO-15	2-Butanone (MEK)	2.6J	ug/m3	4.8	09/14/16 10:48	
TO-15	2-Hexanone	3.7J	ug/m3	8.4	09/14/16 10:48	
TO-15	2-Propanol	19.2	ug/m3	4.0	09/14/16 10:48	
TO-15	4-Ethyltoluene	2.2J	ug/m3	4.0	09/14/16 10:48	
TO-15	Acetone	39.5	ug/m3	3.9	09/14/16 10:48	
TO-15	Benzene	0.32J	ug/m3	0.52	09/14/16 10:48	
TO-15	Cyclohexane	2.2J	ug/m3	2.8	09/14/16 10:48	
TO-15	Dichlorodifluoromethane	2.5	ug/m3	1.6	09/14/16 10:48	
TO-15	Ethanol	1880	ug/m3	1.5	09/14/16 10:48	E
TO-15	Ethyl acetate	4.7	ug/m3	1.2	09/14/16 10:48	
TO-15	Naphthalene	13.2	ug/m3	4.3	09/14/16 10:48	
TO-15	Styrene	1.9J	ug/m3	3.5	09/14/16 10:48	
TO-15	Tetrahydrofuran	1.9J	ug/m3	2.4	09/14/16 10:48	
TO-15	Toluene	11.4	ug/m3	1.2	09/14/16 10:48	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	1.8	09/14/16 10:48	
TO-15	Vinyl acetate	1.2	ug/m3	1.2	09/14/16 10:48	
TO-15	m&p-Xylene	4.2J	ug/m3	7.1	09/14/16 10:48	
TO-15	n-Heptane	7.4	ug/m3	3.4	09/14/16 10:48	
TO-15	n-Hexane	0.77J	ug/m3	1.2	09/14/16 10:48	
TO-15	o-Xylene	1.5	ug/m3	1.4	09/14/16 10:48	
10362199003	IA2-15608P-20160908					
TO-15	1,2,4-Trimethylbenzene	137	ug/m3	3.9	09/14/16 11:19	
TO-15	1,2-Dichloroethane	6.3	ug/m3	0.64	09/14/16 11:19	
TO-15	1,3,5-Trimethylbenzene	29.4	ug/m3	3.9	09/14/16 11:19	
TO-15	2-Butanone (MEK)	4.2J	ug/m3	4.6	09/14/16 11:19	
TO-15	2-Hexanone	4.0J	ug/m3	8.1	09/14/16 11:19	
TO-15	2-Propanol	10.7	ug/m3	3.9	09/14/16 11:19	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10362199003	IA2-15608P-20160908					
TO-15	4-Ethyltoluene	25.0	ug/m3	3.9	09/14/16 11:19	
TO-15	4-Methyl-2-pentanone (MIBK)	3.7J	ug/m3	8.1	09/14/16 11:19	
TO-15	Acetone	28.5	ug/m3	3.7	09/14/16 11:19	
TO-15	Benzene	0.95	ug/m3	0.50	09/14/16 11:19	
TO-15	Carbon tetrachloride	0.56J	ug/m3	0.99	09/14/16 11:19	
TO-15	Chloromethane	0.88	ug/m3	0.65	09/14/16 11:19	
TO-15	Cyclohexane	4.1	ug/m3	2.7	09/14/16 11:19	
TO-15	Dichlorodifluoromethane	2.3	ug/m3	1.6	09/14/16 11:19	
TO-15	Ethanol	93.8	ug/m3	1.5	09/14/16 11:19	
TO-15	Ethyl acetate	1.5	ug/m3	1.1	09/14/16 11:19	
TO-15	Naphthalene	162	ug/m3	4.1	09/14/16 11:19	
TO-15	Propylene	41.0	ug/m3	0.54	09/14/16 11:19	
TO-15	Styrene	4.1	ug/m3	3.4	09/14/16 11:19	
TO-15	Tetrahydrofuran	1.1J	ug/m3	2.3	09/14/16 11:19	
TO-15	Toluene	52.9	ug/m3	1.2	09/14/16 11:19	
TO-15	Trichloroethene	0.54J	ug/m3	0.85	09/14/16 11:19	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	1.8	09/14/16 11:19	
TO-15	Vinyl acetate	1.2	ug/m3	1.1	09/14/16 11:19	
TO-15	m&p-Xylene	118	ug/m3	6.8	09/14/16 11:19	
TO-15	n-Heptane	2.2J	ug/m3	3.2	09/14/16 11:19	
TO-15	n-Hexane	1.2	ug/m3	1.1	09/14/16 11:19	
TO-15	o-Xylene	55.0	ug/m3	1.4	09/14/16 11:19	
10362199004	OA1-15809P-20160909					
TO-15	1,2,4-Trimethylbenzene	2.1J	ug/m3	4.0	09/14/16 11:50	
TO-15	1,3,5-Trimethylbenzene	2.4J	ug/m3	4.0	09/14/16 11:50	
TO-15	2-Butanone (MEK)	0.94J	ug/m3	4.8	09/14/16 11:50	
TO-15	2-Hexanone	3.5J	ug/m3	8.4	09/14/16 11:50	
TO-15	4-Ethyltoluene	2.0J	ug/m3	4.0	09/14/16 11:50	
TO-15	Acetone	7.0	ug/m3	3.9	09/14/16 11:50	
TO-15	Carbon tetrachloride	0.56J	ug/m3	1.0	09/14/16 11:50	
TO-15	Chloromethane	0.89	ug/m3	0.68	09/14/16 11:50	
TO-15	Cyclohexane	0.98J	ug/m3	2.8	09/14/16 11:50	
TO-15	Dichlorodifluoromethane	2.5	ug/m3	1.6	09/14/16 11:50	
TO-15	Ethanol	6.4	ug/m3	1.5	09/14/16 11:50	
TO-15	Ethyl acetate	0.78J	ug/m3	1.2	09/14/16 11:50	
TO-15	Methylene Chloride	3.0J	ug/m3	5.7	09/14/16 11:50	
TO-15	Naphthalene	21.4	ug/m3	4.3	09/14/16 11:50	
TO-15	Styrene	1.7J	ug/m3	3.5	09/14/16 11:50	
TO-15	Tetrahydrofuran	1.1J	ug/m3	2.4	09/14/16 11:50	
TO-15	Toluene	1.6	ug/m3	1.2	09/14/16 11:50	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	1.8	09/14/16 11:50	
TO-15	m&p-Xylene	3.4J	ug/m3	7.1	09/14/16 11:50	
TO-15	n-Hexane	0.66J	ug/m3	1.2	09/14/16 11:50	
TO-15	o-Xylene	1.4J	ug/m3	1.4	09/14/16 11:50	
10362199005	IA1-15809P-20160909					
TO-15	1,2,4-Trimethylbenzene	2.0J	ug/m3	4.0	09/14/16 12:21	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362199

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10362199005	IA1-15809P-20160909					
TO-15	1,2-Dichloroethane	0.52J	ug/m3	0.66	09/14/16 12:21	
TO-15	1,3,5-Trimethylbenzene	2.1J	ug/m3	4.0	09/14/16 12:21	
TO-15	2-Butanone (MEK)	4.5J	ug/m3	4.8	09/14/16 12:21	
TO-15	2-Hexanone	3.6J	ug/m3	8.4	09/14/16 12:21	
TO-15	2-Propanol	5.5	ug/m3	4.0	09/14/16 12:21	
TO-15	Acetone	122	ug/m3	3.9	09/14/16 12:21	
TO-15	Carbon tetrachloride	4.7	ug/m3	1.0	09/14/16 12:21	
TO-15	Chloroform	1.4	ug/m3	0.80	09/14/16 12:21	
TO-15	Chloromethane	1.1	ug/m3	0.68	09/14/16 12:21	
TO-15	Cyclohexane	1.1J	ug/m3	2.8	09/14/16 12:21	
TO-15	Dichlorodifluoromethane	2.4	ug/m3	1.6	09/14/16 12:21	
TO-15	Ethanol	883	ug/m3	1.5	09/14/16 12:21	E
TO-15	Ethyl acetate	15.7	ug/m3	1.2	09/14/16 12:21	
TO-15	Naphthalene	26.6	ug/m3	4.3	09/14/16 12:21	
TO-15	Styrene	127	ug/m3	3.5	09/14/16 12:21	
TO-15	Tetrahydrofuran	0.98J	ug/m3	2.4	09/14/16 12:21	
TO-15	Toluene	5.2	ug/m3	1.2	09/14/16 12:21	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	1.8	09/14/16 12:21	
TO-15	Vinyl acetate	2.3	ug/m3	1.2	09/14/16 12:21	
TO-15	m&p-Xylene	15.1	ug/m3	7.1	09/14/16 12:21	
TO-15	n-Hexane	1.1J	ug/m3	1.2	09/14/16 12:21	
TO-15	o-Xylene	4.3	ug/m3	1.4	09/14/16 12:21	
10362199006	OA1-15710P-20160909					
TO-15	1,2,4-Trimethylbenzene	2.3J	ug/m3	4.2	09/14/16 12:52	
TO-15	1,3,5-Trimethylbenzene	2.0J	ug/m3	4.2	09/14/16 12:52	
TO-15	2-Butanone (MEK)	3.1J	ug/m3	5.0	09/14/16 12:52	
TO-15	2-Hexanone	3.8J	ug/m3	8.7	09/14/16 12:52	
TO-15	4-Ethyltoluene	2.2J	ug/m3	4.2	09/14/16 12:52	
TO-15	Acetone	25.0	ug/m3	4.1	09/14/16 12:52	
TO-15	Carbon tetrachloride	0.55J	ug/m3	1.1	09/14/16 12:52	
TO-15	Chloromethane	1.1	ug/m3	0.71	09/14/16 12:52	
TO-15	Dichlorodifluoromethane	2.5	ug/m3	1.7	09/14/16 12:52	
TO-15	Ethanol	6.1	ug/m3	1.6	09/14/16 12:52	
TO-15	Naphthalene	11.3	ug/m3	4.5	09/14/16 12:52	
TO-15	Styrene	1.8J	ug/m3	3.6	09/14/16 12:52	
TO-15	Toluene	1.4	ug/m3	1.3	09/14/16 12:52	
TO-15	Trichlorofluoromethane	1.2J	ug/m3	1.9	09/14/16 12:52	
TO-15	Vinyl acetate	1.0J	ug/m3	1.2	09/14/16 12:52	
TO-15	m&p-Xylene	3.7J	ug/m3	7.4	09/14/16 12:52	
TO-15	n-Hexane	0.95J	ug/m3	1.2	09/14/16 12:52	
TO-15	o-Xylene	1.5	ug/m3	1.5	09/14/16 12:52	
10362199007	IA1-15710P-20160909					
TO-15	1,2,4-Trimethylbenzene	2.4J	ug/m3	4.4	09/14/16 13:24	
TO-15	1,2-Dichloroethane	2.9	ug/m3	0.72	09/14/16 13:24	
TO-15	1,3,5-Trimethylbenzene	2.1J	ug/m3	4.4	09/14/16 13:24	
TO-15	2-Butanone (MEK)	2.8J	ug/m3	5.2	09/14/16 13:24	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10362199007	IA1-15710P-20160909					
TO-15	2-Hexanone	4.0J	ug/m3	9.1	09/14/16 13:24	
TO-15	2-Propanol	8.4	ug/m3	4.4	09/14/16 13:24	
TO-15	4-Ethyltoluene	2.2J	ug/m3	4.4	09/14/16 13:24	
TO-15	Acetone	46.1	ug/m3	4.2	09/14/16 13:24	
TO-15	Benzene	0.42J	ug/m3	0.57	09/14/16 13:24	
TO-15	Chloromethane	1.2	ug/m3	0.74	09/14/16 13:24	
TO-15	Cyclohexane	2.1J	ug/m3	3.1	09/14/16 13:24	
TO-15	Dichlorodifluoromethane	2.7	ug/m3	1.8	09/14/16 13:24	
TO-15	Ethanol	1370	ug/m3	1.7	09/14/16 13:24	E
TO-15	Ethyl acetate	3.3	ug/m3	1.3	09/14/16 13:24	
TO-15	Naphthalene	20.8	ug/m3	4.7	09/14/16 13:24	
TO-15	Styrene	2.1J	ug/m3	3.8	09/14/16 13:24	
TO-15	Tetrahydrofuran	1.9J	ug/m3	2.6	09/14/16 13:24	
TO-15	Toluene	8.4	ug/m3	1.3	09/14/16 13:24	
TO-15	Trichlorofluoromethane	1.4J	ug/m3	2.0	09/14/16 13:24	
TO-15	Vinyl acetate	1.4	ug/m3	1.3	09/14/16 13:24	
TO-15	m&p-Xylene	3.8J	ug/m3	7.7	09/14/16 13:24	
TO-15	n-Heptane	6.4	ug/m3	3.6	09/14/16 13:24	
TO-15	n-Hexane	0.75J	ug/m3	1.3	09/14/16 13:24	
TO-15	o-Xylene	1.6	ug/m3	1.5	09/14/16 13:24	
10362199008	IA2-15608P-20160909					
TO-15	1,2,4-Trimethylbenzene	2.4J	ug/m3	4.2	09/14/16 13:55	
TO-15	1,2-Dichloroethane	4.9	ug/m3	0.69	09/14/16 13:55	
TO-15	1,3,5-Trimethylbenzene	2.0J	ug/m3	4.2	09/14/16 13:55	
TO-15	2-Hexanone	3.9J	ug/m3	8.7	09/14/16 13:55	
TO-15	2-Propanol	15.9	ug/m3	4.2	09/14/16 13:55	
TO-15	4-Ethyltoluene	2.1J	ug/m3	4.2	09/14/16 13:55	
TO-15	Acetone	21.7	ug/m3	4.1	09/14/16 13:55	
TO-15	Carbon tetrachloride	0.64J	ug/m3	1.1	09/14/16 13:55	
TO-15	Chloromethane	0.95	ug/m3	0.71	09/14/16 13:55	
TO-15	Cyclohexane	1.0J	ug/m3	2.9	09/14/16 13:55	
TO-15	Dichlorodifluoromethane	2.2	ug/m3	1.7	09/14/16 13:55	
TO-15	Ethanol	72.9	ug/m3	1.6	09/14/16 13:55	
TO-15	Ethyl acetate	0.90J	ug/m3	1.2	09/14/16 13:55	
TO-15	Naphthalene	15.7	ug/m3	4.5	09/14/16 13:55	
TO-15	Styrene	1.9J	ug/m3	3.6	09/14/16 13:55	
TO-15	Tetrahydrofuran	1.1J	ug/m3	2.5	09/14/16 13:55	
TO-15	Toluene	3.7	ug/m3	1.3	09/14/16 13:55	
TO-15	Trichloroethene	0.53J	ug/m3	0.92	09/14/16 13:55	
TO-15	Trichlorofluoromethane	1.1J	ug/m3	1.9	09/14/16 13:55	
TO-15	m&p-Xylene	3.8J	ug/m3	7.4	09/14/16 13:55	
TO-15	n-Hexane	0.68J	ug/m3	1.2	09/14/16 13:55	
TO-15	o-Xylene	1.5	ug/m3	1.5	09/14/16 13:55	
10362199009	OA1-BACK-20160909					
TO-15	1,2,4-Trimethylbenzene	4.7	ug/m3	3.9	09/14/16 14:26	
TO-15	1,3,5-Trimethylbenzene	2.4J	ug/m3	3.9	09/14/16 14:26	

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SUMMARY OF DETECTION

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10362199009	OA1-BACK-20160909					
TO-15	2-Butanone (MEK)	5.7	ug/m3	4.6	09/14/16 14:26	
TO-15	2-Hexanone	3.7J	ug/m3	8.1	09/14/16 14:26	
TO-15	2-Propanol	3.5J	ug/m3	3.9	09/14/16 14:26	
TO-15	4-Ethyltoluene	2.5J	ug/m3	3.9	09/14/16 14:26	
TO-15	Acetone	21.3	ug/m3	3.7	09/14/16 14:26	
TO-15	Benzene	0.64	ug/m3	0.50	09/14/16 14:26	
TO-15	Chloromethane	0.91	ug/m3	0.65	09/14/16 14:26	
TO-15	Cyclohexane	1.7J	ug/m3	2.7	09/14/16 14:26	
TO-15	Dichlorodifluoromethane	2.3	ug/m3	1.6	09/14/16 14:26	
TO-15	Ethanol	13.9	ug/m3	1.5	09/14/16 14:26	
TO-15	Methylene Chloride	23.4	ug/m3	5.5	09/14/16 14:26	
TO-15	Naphthalene	6.6	ug/m3	4.1	09/14/16 14:26	
TO-15	Styrene	1.7J	ug/m3	3.4	09/14/16 14:26	
TO-15	Tetrachloroethene	1.9J	ug/m3	2.1	09/14/16 14:26	
TO-15	Tetrahydrofuran	1.5J	ug/m3	2.3	09/14/16 14:26	
TO-15	Toluene	46.7	ug/m3	1.2	09/14/16 14:26	
TO-15	Trichloroethene	1.4	ug/m3	0.85	09/14/16 14:26	
TO-15	Trichlorofluoromethane	1.2J	ug/m3	1.8	09/14/16 14:26	
TO-15	m&p-Xylene	6.1J	ug/m3	6.8	09/14/16 14:26	
TO-15	n-Hexane	3.3	ug/m3	1.1	09/14/16 14:26	
TO-15	o-Xylene	2.5	ug/m3	1.4	09/14/16 14:26	

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PROJECT NARRATIVE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Method: TO-15

Description: TO15 MSV AIR

Client: UPRR_CH2M Hill

Date: September 14, 2016

General Information:

9 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 435658

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- IA1-15710P-20160908 (Lab ID: 10362199002)
 - Ethanol
- IA1-15710P-20160909 (Lab ID: 10362199007)
 - Ethanol
- IA1-15809P-20160909 (Lab ID: 10362199005)
 - Ethanol

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: **OA1-15710P-20160908** Lab ID: **10362199001** Collected: 09/09/16 15:37 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
1,1,1-Trichloroethane	<0.40	ug/m3	1.8	0.40	1.61		09/14/16 10:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.53	ug/m3	5.6	0.53	1.61		09/14/16 10:17	79-34-5	
1,1,2-Trichloroethane	<0.40	ug/m3	0.89	0.40	1.61		09/14/16 10:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.48	ug/m3	2.6	0.48	1.61		09/14/16 10:17	76-13-1	
1,1-Dichloroethane	<0.25	ug/m3	1.3	0.25	1.61		09/14/16 10:17	75-34-3	
1,1-Dichloroethene	<0.38	ug/m3	3.2	0.38	1.61		09/14/16 10:17	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.1	1.5	1.61		09/14/16 10:17	120-82-1	
1,2,4-Trimethylbenzene	<0.20	ug/m3	4.0	0.20	1.61		09/14/16 10:17	95-63-6	
1,2-Dibromoethane (EDB)	<1.2	ug/m3	6.3	1.2	1.61		09/14/16 10:17	106-93-4	
1,2-Dichlorobenzene	<0.82	ug/m3	2.0	0.82	1.61		09/14/16 10:17	95-50-1	
1,2-Dichloroethane	<0.33	ug/m3	0.66	0.33	1.61		09/14/16 10:17	107-06-2	
1,2-Dichloropropane	<0.43	ug/m3	1.5	0.43	1.61		09/14/16 10:17	78-87-5	
1,3,5-Trimethylbenzene	<0.29	ug/m3	4.0	0.29	1.61		09/14/16 10:17	108-67-8	
1,3-Butadiene	<0.28	ug/m3	0.72	0.28	1.61		09/14/16 10:17	106-99-0	
1,3-Dichlorobenzene	<0.85	ug/m3	4.9	0.85	1.61		09/14/16 10:17	541-73-1	
1,4-Dichlorobenzene	<0.80	ug/m3	2.0	0.80	1.61		09/14/16 10:17	106-46-7	
2-Butanone (MEK)	2.6J	ug/m3	4.8	0.37	1.61		09/14/16 10:17	78-93-3	
2-Hexanone	<0.66	ug/m3	8.4	0.66	1.61		09/14/16 10:17	591-78-6	
2-Propanol	1.1J	ug/m3	4.0	0.39	1.61		09/14/16 10:17	67-63-0	
4-Ethyltoluene	<0.30	ug/m3	4.0	0.30	1.61		09/14/16 10:17	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.35	ug/m3	8.4	0.35	1.61		09/14/16 10:17	108-10-1	
Acetone	13.5	ug/m3	3.9	1.3	1.61		09/14/16 10:17	67-64-1	
Benzene	<0.20	ug/m3	0.52	0.20	1.61		09/14/16 10:17	71-43-2	
Benzyl chloride	<0.27	ug/m3	4.2	0.27	1.61		09/14/16 10:17	100-44-7	
Bromodichloromethane	<0.31	ug/m3	5.5	0.31	1.61		09/14/16 10:17	75-27-4	
Bromoform	<1.5	ug/m3	3.4	1.5	1.61		09/14/16 10:17	75-25-2	
Bromomethane	<0.50	ug/m3	1.3	0.50	1.61		09/14/16 10:17	74-83-9	
Carbon disulfide	<0.16	ug/m3	1.0	0.16	1.61		09/14/16 10:17	75-15-0	
Carbon tetrachloride	<0.31	ug/m3	1.0	0.31	1.61		09/14/16 10:17	56-23-5	
Chlorobenzene	<0.22	ug/m3	1.5	0.22	1.61		09/14/16 10:17	108-90-7	
Chloroethane	<0.31	ug/m3	0.87	0.31	1.61		09/14/16 10:17	75-00-3	
Chloroform	<0.31	ug/m3	0.80	0.31	1.61		09/14/16 10:17	67-66-3	
Chloromethane	0.83	ug/m3	0.68	0.17	1.61		09/14/16 10:17	74-87-3	
Cyclohexane	<0.51	ug/m3	2.8	0.51	1.61		09/14/16 10:17	110-82-7	
Dibromochloromethane	<1.4	ug/m3	7.0	1.4	1.61		09/14/16 10:17	124-48-1	
Dichlorodifluoromethane	2.4	ug/m3	1.6	0.77	1.61		09/14/16 10:17	75-71-8	
Dichlorotetrafluoroethane	<0.50	ug/m3	2.3	0.50	1.61		09/14/16 10:17	76-14-2	
Ethanol	4.4	ug/m3	1.5	0.43	1.61		09/14/16 10:17	64-17-5	
Ethyl acetate	<0.56	ug/m3	1.2	0.56	1.61		09/14/16 10:17	141-78-6	
Hexachloro-1,3-butadiene	<1.0	ug/m3	3.5	1.0	1.61		09/14/16 10:17	87-68-3	
Methyl-tert-butyl ether	<0.49	ug/m3	5.9	0.49	1.61		09/14/16 10:17	1634-04-4	
Methylene Chloride	1.4J	ug/m3	5.7	0.87	1.61		09/14/16 10:17	75-09-2	
Naphthalene	12.5	ug/m3	4.3	0.49	1.61		09/14/16 10:17	91-20-3	
Propylene	<0.22	ug/m3	0.56	0.22	1.61		09/14/16 10:17	115-07-1	
Styrene	1.6J	ug/m3	3.5	0.31	1.61		09/14/16 10:17	100-42-5	
Tetrachloroethene	<0.45	ug/m3	2.2	0.45	1.61		09/14/16 10:17	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: OA1-15710P-20160908 **Lab ID: 10362199001** Collected: 09/09/16 15:37 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.19	ug/m3	2.4	0.19	1.61		09/14/16 10:17	109-99-9	
Toluene	3.2	ug/m3	1.2	0.25	1.61		09/14/16 10:17	108-88-3	
Trichloroethene	<0.44	ug/m3	0.89	0.44	1.61		09/14/16 10:17	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.8	0.21	1.61		09/14/16 10:17	75-69-4	
Vinyl acetate	0.94J	ug/m3	1.2	0.53	1.61		09/14/16 10:17	108-05-4	
Vinyl chloride	<0.31	ug/m3	0.42	0.31	1.61		09/14/16 10:17	75-01-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.3	0.40	1.61		09/14/16 10:17	156-59-2	
cis-1,3-Dichloropropene	<0.59	ug/m3	1.5	0.59	1.61		09/14/16 10:17	10061-01-5	
m&p-Xylene	3.3J	ug/m3	7.1	1.3	1.61		09/14/16 10:17	179601-23-1	
n-Heptane	<0.45	ug/m3	3.4	0.45	1.61		09/14/16 10:17	142-82-5	
n-Hexane	0.70J	ug/m3	1.2	0.57	1.61		09/14/16 10:17	110-54-3	
o-Xylene	1.3J	ug/m3	1.4	0.57	1.61		09/14/16 10:17	95-47-6	
trans-1,2-Dichloroethene	<0.62	ug/m3	1.3	0.62	1.61		09/14/16 10:17	156-60-5	
trans-1,3-Dichloropropene	<0.42	ug/m3	1.5	0.42	1.61		09/14/16 10:17	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10362199

Sample: IA1-15710P-20160908 Lab ID: 10362199002 Collected: 09/09/16 16:32 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.40	ug/m3	1.8	0.40	1.61		09/14/16 10:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.53	ug/m3	5.6	0.53	1.61		09/14/16 10:48	79-34-5	
1,1,2-Trichloroethane	<0.40	ug/m3	0.89	0.40	1.61		09/14/16 10:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.48	ug/m3	2.6	0.48	1.61		09/14/16 10:48	76-13-1	
1,1-Dichloroethane	<0.25	ug/m3	1.3	0.25	1.61		09/14/16 10:48	75-34-3	
1,1-Dichloroethene	<0.38	ug/m3	3.2	0.38	1.61		09/14/16 10:48	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.1	1.5	1.61		09/14/16 10:48	120-82-1	
1,2,4-Trimethylbenzene	2.6J	ug/m3	4.0	0.20	1.61		09/14/16 10:48	95-63-6	
1,2-Dibromoethane (EDB)	<1.2	ug/m3	6.3	1.2	1.61		09/14/16 10:48	106-93-4	
1,2-Dichlorobenzene	<0.82	ug/m3	2.0	0.82	1.61		09/14/16 10:48	95-50-1	
1,2-Dichloroethane	3.1	ug/m3	0.66	0.33	1.61		09/14/16 10:48	107-06-2	
1,2-Dichloropropane	<0.43	ug/m3	1.5	0.43	1.61		09/14/16 10:48	78-87-5	
1,3,5-Trimethylbenzene	2.1J	ug/m3	4.0	0.29	1.61		09/14/16 10:48	108-67-8	
1,3-Butadiene	<0.28	ug/m3	0.72	0.28	1.61		09/14/16 10:48	106-99-0	
1,3-Dichlorobenzene	<0.85	ug/m3	4.9	0.85	1.61		09/14/16 10:48	541-73-1	
1,4-Dichlorobenzene	<0.80	ug/m3	2.0	0.80	1.61		09/14/16 10:48	106-46-7	
2-Butanone (MEK)	2.6J	ug/m3	4.8	0.37	1.61		09/14/16 10:48	78-93-3	
2-Hexanone	3.7J	ug/m3	8.4	0.66	1.61		09/14/16 10:48	591-78-6	
2-Propanol	19.2	ug/m3	4.0	0.39	1.61		09/14/16 10:48	67-63-0	
4-Ethyltoluene	2.2J	ug/m3	4.0	0.30	1.61		09/14/16 10:48	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.35	ug/m3	8.4	0.35	1.61		09/14/16 10:48	108-10-1	
Acetone	39.5	ug/m3	3.9	1.3	1.61		09/14/16 10:48	67-64-1	
Benzene	0.32J	ug/m3	0.52	0.20	1.61		09/14/16 10:48	71-43-2	
Benzyl chloride	<0.27	ug/m3	4.2	0.27	1.61		09/14/16 10:48	100-44-7	
Bromodichloromethane	<0.31	ug/m3	5.5	0.31	1.61		09/14/16 10:48	75-27-4	
Bromoform	<1.5	ug/m3	3.4	1.5	1.61		09/14/16 10:48	75-25-2	
Bromomethane	<0.50	ug/m3	1.3	0.50	1.61		09/14/16 10:48	74-83-9	
Carbon disulfide	<0.16	ug/m3	1.0	0.16	1.61		09/14/16 10:48	75-15-0	
Carbon tetrachloride	<0.31	ug/m3	1.0	0.31	1.61		09/14/16 10:48	56-23-5	
Chlorobenzene	<0.22	ug/m3	1.5	0.22	1.61		09/14/16 10:48	108-90-7	
Chloroethane	<0.31	ug/m3	0.87	0.31	1.61		09/14/16 10:48	75-00-3	
Chloroform	<0.31	ug/m3	0.80	0.31	1.61		09/14/16 10:48	67-66-3	
Chloromethane	<0.17	ug/m3	0.68	0.17	1.61		09/14/16 10:48	74-87-3	
Cyclohexane	2.2J	ug/m3	2.8	0.51	1.61		09/14/16 10:48	110-82-7	
Dibromochloromethane	<1.4	ug/m3	7.0	1.4	1.61		09/14/16 10:48	124-48-1	
Dichlorodifluoromethane	2.5	ug/m3	1.6	0.77	1.61		09/14/16 10:48	75-71-8	
Dichlorotetrafluoroethane	<0.50	ug/m3	2.3	0.50	1.61		09/14/16 10:48	76-14-2	
Ethanol	1880	ug/m3	1.5	0.43	1.61		09/14/16 10:48	64-17-5	E
Ethyl acetate	4.7	ug/m3	1.2	0.56	1.61		09/14/16 10:48	141-78-6	
Hexachloro-1,3-butadiene	<1.0	ug/m3	3.5	1.0	1.61		09/14/16 10:48	87-68-3	
Methyl-tert-butyl ether	<0.49	ug/m3	5.9	0.49	1.61		09/14/16 10:48	1634-04-4	
Methylene Chloride	<0.87	ug/m3	5.7	0.87	1.61		09/14/16 10:48	75-09-2	
Naphthalene	13.2	ug/m3	4.3	0.49	1.61		09/14/16 10:48	91-20-3	
Propylene	<0.22	ug/m3	0.56	0.22	1.61		09/14/16 10:48	115-07-1	
Styrene	1.9J	ug/m3	3.5	0.31	1.61		09/14/16 10:48	100-42-5	
Tetrachloroethene	<0.45	ug/m3	2.2	0.45	1.61		09/14/16 10:48	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: IA1-15710P-20160908 **Lab ID: 10362199002** Collected: 09/09/16 16:32 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.9J	ug/m3	2.4	0.19	1.61		09/14/16 10:48	109-99-9	
Toluene	11.4	ug/m3	1.2	0.25	1.61		09/14/16 10:48	108-88-3	
Trichloroethene	<0.44	ug/m3	0.89	0.44	1.61		09/14/16 10:48	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.8	0.21	1.61		09/14/16 10:48	75-69-4	
Vinyl acetate	1.2	ug/m3	1.2	0.53	1.61		09/14/16 10:48	108-05-4	
Vinyl chloride	<0.31	ug/m3	0.42	0.31	1.61		09/14/16 10:48	75-01-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.3	0.40	1.61		09/14/16 10:48	156-59-2	
cis-1,3-Dichloropropene	<0.59	ug/m3	1.5	0.59	1.61		09/14/16 10:48	10061-01-5	
m&p-Xylene	4.2J	ug/m3	7.1	1.3	1.61		09/14/16 10:48	179601-23-1	
n-Heptane	7.4	ug/m3	3.4	0.45	1.61		09/14/16 10:48	142-82-5	
n-Hexane	0.77J	ug/m3	1.2	0.57	1.61		09/14/16 10:48	110-54-3	
o-Xylene	1.5	ug/m3	1.4	0.57	1.61		09/14/16 10:48	95-47-6	
trans-1,2-Dichloroethene	<0.62	ug/m3	1.3	0.62	1.61		09/14/16 10:48	156-60-5	
trans-1,3-Dichloropropene	<0.42	ug/m3	1.5	0.42	1.61		09/14/16 10:48	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10362199

Sample: IA2-15608P-20160908 Lab ID: 10362199003 Collected: 09/09/16 16:38 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.38	ug/m3	1.7	0.38	1.55		09/14/16 11:19	71-55-6	
1,1,2,2-Tetrachloroethane	<0.51	ug/m3	5.4	0.51	1.55		09/14/16 11:19	79-34-5	
1,1,2-Trichloroethane	<0.38	ug/m3	0.85	0.38	1.55		09/14/16 11:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.47	ug/m3	2.5	0.47	1.55		09/14/16 11:19	76-13-1	
1,1-Dichloroethane	<0.24	ug/m3	1.3	0.24	1.55		09/14/16 11:19	75-34-3	
1,1-Dichloroethene	<0.37	ug/m3	3.1	0.37	1.55		09/14/16 11:19	75-35-4	
1,2,4-Trichlorobenzene	<1.4	ug/m3	5.8	1.4	1.55		09/14/16 11:19	120-82-1	
1,2,4-Trimethylbenzene	137	ug/m3	3.9	0.19	1.55		09/14/16 11:19	95-63-6	
1,2-Dibromoethane (EDB)	<1.2	ug/m3	6.1	1.2	1.55		09/14/16 11:19	106-93-4	
1,2-Dichlorobenzene	<0.79	ug/m3	1.9	0.79	1.55		09/14/16 11:19	95-50-1	
1,2-Dichloroethane	6.3	ug/m3	0.64	0.32	1.55		09/14/16 11:19	107-06-2	
1,2-Dichloropropane	<0.42	ug/m3	1.5	0.42	1.55		09/14/16 11:19	78-87-5	
1,3,5-Trimethylbenzene	29.4	ug/m3	3.9	0.28	1.55		09/14/16 11:19	108-67-8	
1,3-Butadiene	<0.27	ug/m3	0.70	0.27	1.55		09/14/16 11:19	106-99-0	
1,3-Dichlorobenzene	<0.82	ug/m3	4.7	0.82	1.55		09/14/16 11:19	541-73-1	
1,4-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		09/14/16 11:19	106-46-7	
2-Butanone (MEK)	4.2J	ug/m3	4.6	0.35	1.55		09/14/16 11:19	78-93-3	
2-Hexanone	4.0J	ug/m3	8.1	0.64	1.55		09/14/16 11:19	591-78-6	
2-Propanol	10.7	ug/m3	3.9	0.37	1.55		09/14/16 11:19	67-63-0	
4-Ethyltoluene	25.0	ug/m3	3.9	0.29	1.55		09/14/16 11:19	622-96-8	
4-Methyl-2-pentanone (MIBK)	3.7J	ug/m3	8.1	0.34	1.55		09/14/16 11:19	108-10-1	
Acetone	28.5	ug/m3	3.7	1.3	1.55		09/14/16 11:19	67-64-1	
Benzene	0.95	ug/m3	0.50	0.19	1.55		09/14/16 11:19	71-43-2	
Benzyl chloride	<0.26	ug/m3	4.1	0.26	1.55		09/14/16 11:19	100-44-7	
Bromodichloromethane	<0.30	ug/m3	5.3	0.30	1.55		09/14/16 11:19	75-27-4	
Bromoform	<1.4	ug/m3	3.3	1.4	1.55		09/14/16 11:19	75-25-2	
Bromomethane	<0.48	ug/m3	1.2	0.48	1.55		09/14/16 11:19	74-83-9	
Carbon disulfide	<0.16	ug/m3	0.98	0.16	1.55		09/14/16 11:19	75-15-0	
Carbon tetrachloride	0.56J	ug/m3	0.99	0.30	1.55		09/14/16 11:19	56-23-5	
Chlorobenzene	<0.21	ug/m3	1.5	0.21	1.55		09/14/16 11:19	108-90-7	
Chloroethane	<0.30	ug/m3	0.84	0.30	1.55		09/14/16 11:19	75-00-3	
Chloroform	<0.29	ug/m3	0.77	0.29	1.55		09/14/16 11:19	67-66-3	
Chloromethane	0.88	ug/m3	0.65	0.17	1.55		09/14/16 11:19	74-87-3	
Cyclohexane	4.1	ug/m3	2.7	0.49	1.55		09/14/16 11:19	110-82-7	
Dibromochloromethane	<1.3	ug/m3	6.7	1.3	1.55		09/14/16 11:19	124-48-1	
Dichlorodifluoromethane	2.3	ug/m3	1.6	0.74	1.55		09/14/16 11:19	75-71-8	
Dichlorotetrafluoroethane	<0.48	ug/m3	2.2	0.48	1.55		09/14/16 11:19	76-14-2	
Ethanol	93.8	ug/m3	1.5	0.41	1.55		09/14/16 11:19	64-17-5	
Ethyl acetate	1.5	ug/m3	1.1	0.54	1.55		09/14/16 11:19	141-78-6	
Hexachloro-1,3-butadiene	<1.0	ug/m3	3.4	1.0	1.55		09/14/16 11:19	87-68-3	
Methyl-tert-butyl ether	<0.47	ug/m3	5.7	0.47	1.55		09/14/16 11:19	1634-04-4	
Methylene Chloride	<0.84	ug/m3	5.5	0.84	1.55		09/14/16 11:19	75-09-2	
Naphthalene	162	ug/m3	4.1	0.47	1.55		09/14/16 11:19	91-20-3	
Propylene	41.0	ug/m3	0.54	0.21	1.55		09/14/16 11:19	115-07-1	
Styrene	4.1	ug/m3	3.4	0.30	1.55		09/14/16 11:19	100-42-5	
Tetrachloroethene	<0.43	ug/m3	2.1	0.43	1.55		09/14/16 11:19	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: IA2-15608P-20160908 **Lab ID: 10362199003** Collected: 09/09/16 16:38 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.1J	ug/m3	2.3	0.18	1.55		09/14/16 11:19	109-99-9	
Toluene	52.9	ug/m3	1.2	0.24	1.55		09/14/16 11:19	108-88-3	
Trichloroethene	0.54J	ug/m3	0.85	0.43	1.55		09/14/16 11:19	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.8	0.20	1.55		09/14/16 11:19	75-69-4	
Vinyl acetate	1.2	ug/m3	1.1	0.51	1.55		09/14/16 11:19	108-05-4	
Vinyl chloride	<0.30	ug/m3	0.40	0.30	1.55		09/14/16 11:19	75-01-4	
cis-1,2-Dichloroethene	<0.38	ug/m3	1.3	0.38	1.55		09/14/16 11:19	156-59-2	
cis-1,3-Dichloropropene	<0.57	ug/m3	1.4	0.57	1.55		09/14/16 11:19	10061-01-5	
m&p-Xylene	118	ug/m3	6.8	1.2	1.55		09/14/16 11:19	179601-23-1	
n-Heptane	2.2J	ug/m3	3.2	0.43	1.55		09/14/16 11:19	142-82-5	
n-Hexane	1.2	ug/m3	1.1	0.55	1.55		09/14/16 11:19	110-54-3	
o-Xylene	55.0	ug/m3	1.4	0.54	1.55		09/14/16 11:19	95-47-6	
trans-1,2-Dichloroethene	<0.60	ug/m3	1.3	0.60	1.55		09/14/16 11:19	156-60-5	
trans-1,3-Dichloropropene	<0.40	ug/m3	1.4	0.40	1.55		09/14/16 11:19	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: **OA1-15809P-20160909** Lab ID: **10362199004** Collected: 09/10/16 16:02 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.40	ug/m3	1.8	0.40	1.61		09/14/16 11:50	71-55-6	
1,1,2,2-Tetrachloroethane	<0.53	ug/m3	5.6	0.53	1.61		09/14/16 11:50	79-34-5	
1,1,2-Trichloroethane	<0.40	ug/m3	0.89	0.40	1.61		09/14/16 11:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.48	ug/m3	2.6	0.48	1.61		09/14/16 11:50	76-13-1	
1,1-Dichloroethane	<0.25	ug/m3	1.3	0.25	1.61		09/14/16 11:50	75-34-3	
1,1-Dichloroethene	<0.38	ug/m3	3.2	0.38	1.61		09/14/16 11:50	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.1	1.5	1.61		09/14/16 11:50	120-82-1	
1,2,4-Trimethylbenzene	2.1J	ug/m3	4.0	0.20	1.61		09/14/16 11:50	95-63-6	
1,2-Dibromoethane (EDB)	<1.2	ug/m3	6.3	1.2	1.61		09/14/16 11:50	106-93-4	
1,2-Dichlorobenzene	<0.82	ug/m3	2.0	0.82	1.61		09/14/16 11:50	95-50-1	
1,2-Dichloroethane	<0.33	ug/m3	0.66	0.33	1.61		09/14/16 11:50	107-06-2	
1,2-Dichloropropane	<0.43	ug/m3	1.5	0.43	1.61		09/14/16 11:50	78-87-5	
1,3,5-Trimethylbenzene	2.4J	ug/m3	4.0	0.29	1.61		09/14/16 11:50	108-67-8	
1,3-Butadiene	<0.28	ug/m3	0.72	0.28	1.61		09/14/16 11:50	106-99-0	
1,3-Dichlorobenzene	<0.85	ug/m3	4.9	0.85	1.61		09/14/16 11:50	541-73-1	
1,4-Dichlorobenzene	<0.80	ug/m3	2.0	0.80	1.61		09/14/16 11:50	106-46-7	
2-Butanone (MEK)	0.94J	ug/m3	4.8	0.37	1.61		09/14/16 11:50	78-93-3	
2-Hexanone	3.5J	ug/m3	8.4	0.66	1.61		09/14/16 11:50	591-78-6	
2-Propanol	<0.39	ug/m3	4.0	0.39	1.61		09/14/16 11:50	67-63-0	
4-Ethyltoluene	2.0J	ug/m3	4.0	0.30	1.61		09/14/16 11:50	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.35	ug/m3	8.4	0.35	1.61		09/14/16 11:50	108-10-1	
Acetone	7.0	ug/m3	3.9	1.3	1.61		09/14/16 11:50	67-64-1	
Benzene	<0.20	ug/m3	0.52	0.20	1.61		09/14/16 11:50	71-43-2	
Benzyl chloride	<0.27	ug/m3	4.2	0.27	1.61		09/14/16 11:50	100-44-7	
Bromodichloromethane	<0.31	ug/m3	5.5	0.31	1.61		09/14/16 11:50	75-27-4	
Bromoform	<1.5	ug/m3	3.4	1.5	1.61		09/14/16 11:50	75-25-2	
Bromomethane	<0.50	ug/m3	1.3	0.50	1.61		09/14/16 11:50	74-83-9	
Carbon disulfide	<0.16	ug/m3	1.0	0.16	1.61		09/14/16 11:50	75-15-0	
Carbon tetrachloride	0.56J	ug/m3	1.0	0.31	1.61		09/14/16 11:50	56-23-5	
Chlorobenzene	<0.22	ug/m3	1.5	0.22	1.61		09/14/16 11:50	108-90-7	
Chloroethane	<0.31	ug/m3	0.87	0.31	1.61		09/14/16 11:50	75-00-3	
Chloroform	<0.31	ug/m3	0.80	0.31	1.61		09/14/16 11:50	67-66-3	
Chloromethane	0.89	ug/m3	0.68	0.17	1.61		09/14/16 11:50	74-87-3	
Cyclohexane	0.98J	ug/m3	2.8	0.51	1.61		09/14/16 11:50	110-82-7	
Dibromochloromethane	<1.4	ug/m3	7.0	1.4	1.61		09/14/16 11:50	124-48-1	
Dichlorodifluoromethane	2.5	ug/m3	1.6	0.77	1.61		09/14/16 11:50	75-71-8	
Dichlorotetrafluoroethane	<0.50	ug/m3	2.3	0.50	1.61		09/14/16 11:50	76-14-2	
Ethanol	6.4	ug/m3	1.5	0.43	1.61		09/14/16 11:50	64-17-5	
Ethyl acetate	0.78J	ug/m3	1.2	0.56	1.61		09/14/16 11:50	141-78-6	
Hexachloro-1,3-butadiene	<1.0	ug/m3	3.5	1.0	1.61		09/14/16 11:50	87-68-3	
Methyl-tert-butyl ether	<0.49	ug/m3	5.9	0.49	1.61		09/14/16 11:50	1634-04-4	
Methylene Chloride	3.0J	ug/m3	5.7	0.87	1.61		09/14/16 11:50	75-09-2	
Naphthalene	21.4	ug/m3	4.3	0.49	1.61		09/14/16 11:50	91-20-3	
Propylene	<0.22	ug/m3	0.56	0.22	1.61		09/14/16 11:50	115-07-1	
Styrene	1.7J	ug/m3	3.5	0.31	1.61		09/14/16 11:50	100-42-5	
Tetrachloroethene	<0.45	ug/m3	2.2	0.45	1.61		09/14/16 11:50	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: OA1-15809P-20160909 **Lab ID: 10362199004** Collected: 09/10/16 16:02 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.1J	ug/m3	2.4	0.19	1.61		09/14/16 11:50	109-99-9	
Toluene	1.6	ug/m3	1.2	0.25	1.61		09/14/16 11:50	108-88-3	
Trichloroethene	<0.44	ug/m3	0.89	0.44	1.61		09/14/16 11:50	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.8	0.21	1.61		09/14/16 11:50	75-69-4	
Vinyl acetate	<0.53	ug/m3	1.2	0.53	1.61		09/14/16 11:50	108-05-4	
Vinyl chloride	<0.31	ug/m3	0.42	0.31	1.61		09/14/16 11:50	75-01-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.3	0.40	1.61		09/14/16 11:50	156-59-2	
cis-1,3-Dichloropropene	<0.59	ug/m3	1.5	0.59	1.61		09/14/16 11:50	10061-01-5	
m&p-Xylene	3.4J	ug/m3	7.1	1.3	1.61		09/14/16 11:50	179601-23-1	
n-Heptane	<0.45	ug/m3	3.4	0.45	1.61		09/14/16 11:50	142-82-5	
n-Hexane	0.66J	ug/m3	1.2	0.57	1.61		09/14/16 11:50	110-54-3	
o-Xylene	1.4J	ug/m3	1.4	0.57	1.61		09/14/16 11:50	95-47-6	
trans-1,2-Dichloroethene	<0.62	ug/m3	1.3	0.62	1.61		09/14/16 11:50	156-60-5	
trans-1,3-Dichloropropene	<0.42	ug/m3	1.5	0.42	1.61		09/14/16 11:50	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362199

Sample: IA1-15809P-20160909 Lab ID: 10362199005 Collected: 09/10/16 16:00 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.40	ug/m3	1.8	0.40	1.61		09/14/16 12:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.53	ug/m3	5.6	0.53	1.61		09/14/16 12:21	79-34-5	
1,1,2-Trichloroethane	<0.40	ug/m3	0.89	0.40	1.61		09/14/16 12:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.48	ug/m3	2.6	0.48	1.61		09/14/16 12:21	76-13-1	
1,1-Dichloroethane	<0.25	ug/m3	1.3	0.25	1.61		09/14/16 12:21	75-34-3	
1,1-Dichloroethene	<0.38	ug/m3	3.2	0.38	1.61		09/14/16 12:21	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.1	1.5	1.61		09/14/16 12:21	120-82-1	
1,2,4-Trimethylbenzene	2.0J	ug/m3	4.0	0.20	1.61		09/14/16 12:21	95-63-6	
1,2-Dibromoethane (EDB)	<1.2	ug/m3	6.3	1.2	1.61		09/14/16 12:21	106-93-4	
1,2-Dichlorobenzene	<0.82	ug/m3	2.0	0.82	1.61		09/14/16 12:21	95-50-1	
1,2-Dichloroethane	0.52J	ug/m3	0.66	0.33	1.61		09/14/16 12:21	107-06-2	
1,2-Dichloropropane	<0.43	ug/m3	1.5	0.43	1.61		09/14/16 12:21	78-87-5	
1,3,5-Trimethylbenzene	2.1J	ug/m3	4.0	0.29	1.61		09/14/16 12:21	108-67-8	
1,3-Butadiene	<0.28	ug/m3	0.72	0.28	1.61		09/14/16 12:21	106-99-0	
1,3-Dichlorobenzene	<0.85	ug/m3	4.9	0.85	1.61		09/14/16 12:21	541-73-1	
1,4-Dichlorobenzene	<0.80	ug/m3	2.0	0.80	1.61		09/14/16 12:21	106-46-7	
2-Butanone (MEK)	4.5J	ug/m3	4.8	0.37	1.61		09/14/16 12:21	78-93-3	
2-Hexanone	3.6J	ug/m3	8.4	0.66	1.61		09/14/16 12:21	591-78-6	
2-Propanol	5.5	ug/m3	4.0	0.39	1.61		09/14/16 12:21	67-63-0	
4-Ethyltoluene	<0.30	ug/m3	4.0	0.30	1.61		09/14/16 12:21	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.35	ug/m3	8.4	0.35	1.61		09/14/16 12:21	108-10-1	
Acetone	122	ug/m3	3.9	1.3	1.61		09/14/16 12:21	67-64-1	
Benzene	<0.20	ug/m3	0.52	0.20	1.61		09/14/16 12:21	71-43-2	
Benzyl chloride	<0.27	ug/m3	4.2	0.27	1.61		09/14/16 12:21	100-44-7	
Bromodichloromethane	<0.31	ug/m3	5.5	0.31	1.61		09/14/16 12:21	75-27-4	
Bromoform	<1.5	ug/m3	3.4	1.5	1.61		09/14/16 12:21	75-25-2	
Bromomethane	<0.50	ug/m3	1.3	0.50	1.61		09/14/16 12:21	74-83-9	
Carbon disulfide	<0.16	ug/m3	1.0	0.16	1.61		09/14/16 12:21	75-15-0	
Carbon tetrachloride	4.7	ug/m3	1.0	0.31	1.61		09/14/16 12:21	56-23-5	
Chlorobenzene	<0.22	ug/m3	1.5	0.22	1.61		09/14/16 12:21	108-90-7	
Chloroethane	<0.31	ug/m3	0.87	0.31	1.61		09/14/16 12:21	75-00-3	
Chloroform	1.4	ug/m3	0.80	0.31	1.61		09/14/16 12:21	67-66-3	
Chloromethane	1.1	ug/m3	0.68	0.17	1.61		09/14/16 12:21	74-87-3	
Cyclohexane	1.1J	ug/m3	2.8	0.51	1.61		09/14/16 12:21	110-82-7	
Dibromochloromethane	<1.4	ug/m3	7.0	1.4	1.61		09/14/16 12:21	124-48-1	
Dichlorodifluoromethane	2.4	ug/m3	1.6	0.77	1.61		09/14/16 12:21	75-71-8	
Dichlorotetrafluoroethane	<0.50	ug/m3	2.3	0.50	1.61		09/14/16 12:21	76-14-2	
Ethanol	883	ug/m3	1.5	0.43	1.61		09/14/16 12:21	64-17-5	E
Ethyl acetate	15.7	ug/m3	1.2	0.56	1.61		09/14/16 12:21	141-78-6	
Hexachloro-1,3-butadiene	<1.0	ug/m3	3.5	1.0	1.61		09/14/16 12:21	87-68-3	
Methyl-tert-butyl ether	<0.49	ug/m3	5.9	0.49	1.61		09/14/16 12:21	1634-04-4	
Methylene Chloride	<0.87	ug/m3	5.7	0.87	1.61		09/14/16 12:21	75-09-2	
Naphthalene	26.6	ug/m3	4.3	0.49	1.61		09/14/16 12:21	91-20-3	
Propylene	<0.22	ug/m3	0.56	0.22	1.61		09/14/16 12:21	115-07-1	
Styrene	127	ug/m3	3.5	0.31	1.61		09/14/16 12:21	100-42-5	
Tetrachloroethene	<0.45	ug/m3	2.2	0.45	1.61		09/14/16 12:21	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: IA1-15809P-20160909 **Lab ID: 10362199005** Collected: 09/10/16 16:00 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	0.98J	ug/m3	2.4	0.19	1.61		09/14/16 12:21	109-99-9	
Toluene	5.2	ug/m3	1.2	0.25	1.61		09/14/16 12:21	108-88-3	
Trichloroethene	<0.44	ug/m3	0.89	0.44	1.61		09/14/16 12:21	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.8	0.21	1.61		09/14/16 12:21	75-69-4	
Vinyl acetate	2.3	ug/m3	1.2	0.53	1.61		09/14/16 12:21	108-05-4	
Vinyl chloride	<0.31	ug/m3	0.42	0.31	1.61		09/14/16 12:21	75-01-4	
cis-1,2-Dichloroethene	<0.40	ug/m3	1.3	0.40	1.61		09/14/16 12:21	156-59-2	
cis-1,3-Dichloropropene	<0.59	ug/m3	1.5	0.59	1.61		09/14/16 12:21	10061-01-5	
m&p-Xylene	15.1	ug/m3	7.1	1.3	1.61		09/14/16 12:21	179601-23-1	
n-Heptane	<0.45	ug/m3	3.4	0.45	1.61		09/14/16 12:21	142-82-5	
n-Hexane	1.1J	ug/m3	1.2	0.57	1.61		09/14/16 12:21	110-54-3	
o-Xylene	4.3	ug/m3	1.4	0.57	1.61		09/14/16 12:21	95-47-6	
trans-1,2-Dichloroethene	<0.62	ug/m3	1.3	0.62	1.61		09/14/16 12:21	156-60-5	
trans-1,3-Dichloropropene	<0.42	ug/m3	1.5	0.42	1.61		09/14/16 12:21	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: **OA1-15710P-20160909** Lab ID: **10362199006** Collected: 09/10/16 16:07 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.41	ug/m3	1.9	0.41	1.68		09/14/16 12:52	71-55-6	
1,1,2,2-Tetrachloroethane	<0.55	ug/m3	5.9	0.55	1.68		09/14/16 12:52	79-34-5	
1,1,2-Trichloroethane	<0.41	ug/m3	0.92	0.41	1.68		09/14/16 12:52	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.51	ug/m3	2.7	0.51	1.68		09/14/16 12:52	76-13-1	
1,1-Dichloroethane	<0.26	ug/m3	1.4	0.26	1.68		09/14/16 12:52	75-34-3	
1,1-Dichloroethene	<0.40	ug/m3	3.4	0.40	1.68		09/14/16 12:52	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.3	1.5	1.68		09/14/16 12:52	120-82-1	
1,2,4-Trimethylbenzene	2.3J	ug/m3	4.2	0.21	1.68		09/14/16 12:52	95-63-6	
1,2-Dibromoethane (EDB)	<1.3	ug/m3	6.6	1.3	1.68		09/14/16 12:52	106-93-4	
1,2-Dichlorobenzene	<0.86	ug/m3	2.0	0.86	1.68		09/14/16 12:52	95-50-1	
1,2-Dichloroethane	<0.34	ug/m3	0.69	0.34	1.68		09/14/16 12:52	107-06-2	
1,2-Dichloropropane	<0.45	ug/m3	1.6	0.45	1.68		09/14/16 12:52	78-87-5	
1,3,5-Trimethylbenzene	2.0J	ug/m3	4.2	0.31	1.68		09/14/16 12:52	108-67-8	
1,3-Butadiene	<0.30	ug/m3	0.76	0.30	1.68		09/14/16 12:52	106-99-0	
1,3-Dichlorobenzene	<0.89	ug/m3	5.1	0.89	1.68		09/14/16 12:52	541-73-1	
1,4-Dichlorobenzene	<0.84	ug/m3	2.0	0.84	1.68		09/14/16 12:52	106-46-7	
2-Butanone (MEK)	3.1J	ug/m3	5.0	0.38	1.68		09/14/16 12:52	78-93-3	
2-Hexanone	3.8J	ug/m3	8.7	0.69	1.68		09/14/16 12:52	591-78-6	
2-Propanol	<0.40	ug/m3	4.2	0.40	1.68		09/14/16 12:52	67-63-0	
4-Ethyltoluene	2.2J	ug/m3	4.2	0.32	1.68		09/14/16 12:52	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.36	ug/m3	8.7	0.36	1.68		09/14/16 12:52	108-10-1	
Acetone	25.0	ug/m3	4.1	1.4	1.68		09/14/16 12:52	67-64-1	
Benzene	<0.20	ug/m3	0.55	0.20	1.68		09/14/16 12:52	71-43-2	
Benzyl chloride	<0.28	ug/m3	4.4	0.28	1.68		09/14/16 12:52	100-44-7	
Bromodichloromethane	<0.33	ug/m3	5.7	0.33	1.68		09/14/16 12:52	75-27-4	
Bromoform	<1.5	ug/m3	3.5	1.5	1.68		09/14/16 12:52	75-25-2	
Bromomethane	<0.52	ug/m3	1.3	0.52	1.68		09/14/16 12:52	74-83-9	
Carbon disulfide	<0.17	ug/m3	1.1	0.17	1.68		09/14/16 12:52	75-15-0	
Carbon tetrachloride	0.55J	ug/m3	1.1	0.32	1.68		09/14/16 12:52	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.68		09/14/16 12:52	108-90-7	
Chloroethane	<0.33	ug/m3	0.91	0.33	1.68		09/14/16 12:52	75-00-3	
Chloroform	<0.32	ug/m3	0.83	0.32	1.68		09/14/16 12:52	67-66-3	
Chloromethane	1.1	ug/m3	0.71	0.18	1.68		09/14/16 12:52	74-87-3	
Cyclohexane	<0.53	ug/m3	2.9	0.53	1.68		09/14/16 12:52	110-82-7	
Dibromochloromethane	<1.4	ug/m3	7.3	1.4	1.68		09/14/16 12:52	124-48-1	
Dichlorodifluoromethane	2.5	ug/m3	1.7	0.81	1.68		09/14/16 12:52	75-71-8	
Dichlorotetrafluoroethane	<0.52	ug/m3	2.4	0.52	1.68		09/14/16 12:52	76-14-2	
Ethanol	6.1	ug/m3	1.6	0.45	1.68		09/14/16 12:52	64-17-5	
Ethyl acetate	<0.58	ug/m3	1.2	0.58	1.68		09/14/16 12:52	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.6	1.1	1.68		09/14/16 12:52	87-68-3	
Methyl-tert-butyl ether	<0.51	ug/m3	6.2	0.51	1.68		09/14/16 12:52	1634-04-4	
Methylene Chloride	<0.91	ug/m3	5.9	0.91	1.68		09/14/16 12:52	75-09-2	
Naphthalene	11.3	ug/m3	4.5	0.51	1.68		09/14/16 12:52	91-20-3	
Propylene	<0.23	ug/m3	0.59	0.23	1.68		09/14/16 12:52	115-07-1	
Styrene	1.8J	ug/m3	3.6	0.32	1.68		09/14/16 12:52	100-42-5	
Tetrachloroethene	<0.47	ug/m3	2.3	0.47	1.68		09/14/16 12:52	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: OA1-15710P-20160909 **Lab ID: 10362199006** Collected: 09/10/16 16:07 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	<0.20	ug/m3	2.5	0.20	1.68		09/14/16 12:52	109-99-9	
Toluene	1.4	ug/m3	1.3	0.26	1.68		09/14/16 12:52	108-88-3	
Trichloroethene	<0.46	ug/m3	0.92	0.46	1.68		09/14/16 12:52	79-01-6	
Trichlorofluoromethane	1.2J	ug/m3	1.9	0.22	1.68		09/14/16 12:52	75-69-4	
Vinyl acetate	1.0J	ug/m3	1.2	0.55	1.68		09/14/16 12:52	108-05-4	
Vinyl chloride	<0.33	ug/m3	0.44	0.33	1.68		09/14/16 12:52	75-01-4	
cis-1,2-Dichloroethene	<0.41	ug/m3	1.4	0.41	1.68		09/14/16 12:52	156-59-2	
cis-1,3-Dichloropropene	<0.62	ug/m3	1.5	0.62	1.68		09/14/16 12:52	10061-01-5	
m&p-Xylene	3.7J	ug/m3	7.4	1.3	1.68		09/14/16 12:52	179601-23-1	
n-Heptane	<0.47	ug/m3	3.5	0.47	1.68		09/14/16 12:52	142-82-5	
n-Hexane	0.95J	ug/m3	1.2	0.60	1.68		09/14/16 12:52	110-54-3	
o-Xylene	1.5	ug/m3	1.5	0.59	1.68		09/14/16 12:52	95-47-6	
trans-1,2-Dichloroethene	<0.65	ug/m3	1.4	0.65	1.68		09/14/16 12:52	156-60-5	
trans-1,3-Dichloropropene	<0.44	ug/m3	1.5	0.44	1.68		09/14/16 12:52	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: IA1-15710P-20160909 Lab ID: 10362199007 Collected: 09/10/16 16:06 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.43	ug/m3	1.9	0.43	1.75		09/14/16 13:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.58	ug/m3	6.1	0.58	1.75		09/14/16 13:24	79-34-5	
1,1,2-Trichloroethane	<0.43	ug/m3	0.96	0.43	1.75		09/14/16 13:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.53	ug/m3	2.8	0.53	1.75		09/14/16 13:24	76-13-1	
1,1-Dichloroethane	<0.27	ug/m3	1.4	0.27	1.75		09/14/16 13:24	75-34-3	
1,1-Dichloroethene	<0.42	ug/m3	3.5	0.42	1.75		09/14/16 13:24	75-35-4	
1,2,4-Trichlorobenzene	<1.6	ug/m3	6.6	1.6	1.75		09/14/16 13:24	120-82-1	
1,2,4-Trimethylbenzene	2.4J	ug/m3	4.4	0.22	1.75		09/14/16 13:24	95-63-6	
1,2-Dibromoethane (EDB)	<1.4	ug/m3	6.8	1.4	1.75		09/14/16 13:24	106-93-4	
1,2-Dichlorobenzene	<0.90	ug/m3	2.1	0.90	1.75		09/14/16 13:24	95-50-1	
1,2-Dichloroethane	2.9	ug/m3	0.72	0.36	1.75		09/14/16 13:24	107-06-2	
1,2-Dichloropropane	<0.47	ug/m3	1.6	0.47	1.75		09/14/16 13:24	78-87-5	
1,3,5-Trimethylbenzene	2.1J	ug/m3	4.4	0.32	1.75		09/14/16 13:24	108-67-8	
1,3-Butadiene	<0.31	ug/m3	0.79	0.31	1.75		09/14/16 13:24	106-99-0	
1,3-Dichlorobenzene	<0.93	ug/m3	5.3	0.93	1.75		09/14/16 13:24	541-73-1	
1,4-Dichlorobenzene	<0.87	ug/m3	2.1	0.87	1.75		09/14/16 13:24	106-46-7	
2-Butanone (MEK)	2.8J	ug/m3	5.2	0.40	1.75		09/14/16 13:24	78-93-3	
2-Hexanone	4.0J	ug/m3	9.1	0.72	1.75		09/14/16 13:24	591-78-6	
2-Propanol	8.4	ug/m3	4.4	0.42	1.75		09/14/16 13:24	67-63-0	
4-Ethyltoluene	2.2J	ug/m3	4.4	0.33	1.75		09/14/16 13:24	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.38	ug/m3	9.1	0.38	1.75		09/14/16 13:24	108-10-1	
Acetone	46.1	ug/m3	4.2	1.5	1.75		09/14/16 13:24	67-64-1	
Benzene	0.42J	ug/m3	0.57	0.21	1.75		09/14/16 13:24	71-43-2	
Benzyl chloride	<0.29	ug/m3	4.6	0.29	1.75		09/14/16 13:24	100-44-7	
Bromodichloromethane	<0.34	ug/m3	6.0	0.34	1.75		09/14/16 13:24	75-27-4	
Bromoform	<1.6	ug/m3	3.7	1.6	1.75		09/14/16 13:24	75-25-2	
Bromomethane	<0.54	ug/m3	1.4	0.54	1.75		09/14/16 13:24	74-83-9	
Carbon disulfide	<0.18	ug/m3	1.1	0.18	1.75		09/14/16 13:24	75-15-0	
Carbon tetrachloride	<0.34	ug/m3	1.1	0.34	1.75		09/14/16 13:24	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.75		09/14/16 13:24	108-90-7	
Chloroethane	<0.34	ug/m3	0.94	0.34	1.75		09/14/16 13:24	75-00-3	
Chloroform	<0.33	ug/m3	0.87	0.33	1.75		09/14/16 13:24	67-66-3	
Chloromethane	1.2	ug/m3	0.74	0.19	1.75		09/14/16 13:24	74-87-3	
Cyclohexane	2.1J	ug/m3	3.1	0.55	1.75		09/14/16 13:24	110-82-7	
Dibromochloromethane	<1.5	ug/m3	7.6	1.5	1.75		09/14/16 13:24	124-48-1	
Dichlorodifluoromethane	2.7	ug/m3	1.8	0.84	1.75		09/14/16 13:24	75-71-8	
Dichlorotetrafluoroethane	<0.54	ug/m3	2.5	0.54	1.75		09/14/16 13:24	76-14-2	
Ethanol	1370	ug/m3	1.7	0.46	1.75		09/14/16 13:24	64-17-5	E
Ethyl acetate	3.3	ug/m3	1.3	0.61	1.75		09/14/16 13:24	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.8	1.1	1.75		09/14/16 13:24	87-68-3	
Methyl-tert-butyl ether	<0.53	ug/m3	6.4	0.53	1.75		09/14/16 13:24	1634-04-4	
Methylene Chloride	<0.95	ug/m3	6.2	0.95	1.75		09/14/16 13:24	75-09-2	
Naphthalene	20.8	ug/m3	4.7	0.53	1.75		09/14/16 13:24	91-20-3	
Propylene	<0.24	ug/m3	0.61	0.24	1.75		09/14/16 13:24	115-07-1	
Styrene	2.1J	ug/m3	3.8	0.34	1.75		09/14/16 13:24	100-42-5	
Tetrachloroethene	<0.49	ug/m3	2.4	0.49	1.75		09/14/16 13:24	127-18-4	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: IA1-15710P-20160909 **Lab ID: 10362199007** Collected: 09/10/16 16:06 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.9J	ug/m3	2.6	0.21	1.75		09/14/16 13:24	109-99-9	
Toluene	8.4	ug/m3	1.3	0.27	1.75		09/14/16 13:24	108-88-3	
Trichloroethene	<0.48	ug/m3	0.96	0.48	1.75		09/14/16 13:24	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	2.0	0.23	1.75		09/14/16 13:24	75-69-4	
Vinyl acetate	1.4	ug/m3	1.3	0.58	1.75		09/14/16 13:24	108-05-4	
Vinyl chloride	<0.34	ug/m3	0.46	0.34	1.75		09/14/16 13:24	75-01-4	
cis-1,2-Dichloroethene	<0.43	ug/m3	1.4	0.43	1.75		09/14/16 13:24	156-59-2	
cis-1,3-Dichloropropene	<0.65	ug/m3	1.6	0.65	1.75		09/14/16 13:24	10061-01-5	
m&p-Xylene	3.8J	ug/m3	7.7	1.4	1.75		09/14/16 13:24	179601-23-1	
n-Heptane	6.4	ug/m3	3.6	0.49	1.75		09/14/16 13:24	142-82-5	
n-Hexane	0.75J	ug/m3	1.3	0.62	1.75		09/14/16 13:24	110-54-3	
o-Xylene	1.6	ug/m3	1.5	0.61	1.75		09/14/16 13:24	95-47-6	
trans-1,2-Dichloroethene	<0.67	ug/m3	1.4	0.67	1.75		09/14/16 13:24	156-60-5	
trans-1,3-Dichloropropene	<0.46	ug/m3	1.6	0.46	1.75		09/14/16 13:24	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Project No.: 10362199

Sample: IA2-15608P-20160909 Lab ID: 10362199008 Collected: 09/10/16 16:10 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.41	ug/m3	1.9	0.41	1.68		09/14/16 13:55	71-55-6	
1,1,2,2-Tetrachloroethane	<0.55	ug/m3	5.9	0.55	1.68		09/14/16 13:55	79-34-5	
1,1,2-Trichloroethane	<0.41	ug/m3	0.92	0.41	1.68		09/14/16 13:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.51	ug/m3	2.7	0.51	1.68		09/14/16 13:55	76-13-1	
1,1-Dichloroethane	<0.26	ug/m3	1.4	0.26	1.68		09/14/16 13:55	75-34-3	
1,1-Dichloroethene	<0.40	ug/m3	3.4	0.40	1.68		09/14/16 13:55	75-35-4	
1,2,4-Trichlorobenzene	<1.5	ug/m3	6.3	1.5	1.68		09/14/16 13:55	120-82-1	
1,2,4-Trimethylbenzene	2.4J	ug/m3	4.2	0.21	1.68		09/14/16 13:55	95-63-6	
1,2-Dibromoethane (EDB)	<1.3	ug/m3	6.6	1.3	1.68		09/14/16 13:55	106-93-4	
1,2-Dichlorobenzene	<0.86	ug/m3	2.0	0.86	1.68		09/14/16 13:55	95-50-1	
1,2-Dichloroethane	4.9	ug/m3	0.69	0.34	1.68		09/14/16 13:55	107-06-2	
1,2-Dichloropropane	<0.45	ug/m3	1.6	0.45	1.68		09/14/16 13:55	78-87-5	
1,3,5-Trimethylbenzene	2.0J	ug/m3	4.2	0.31	1.68		09/14/16 13:55	108-67-8	
1,3-Butadiene	<0.30	ug/m3	0.76	0.30	1.68		09/14/16 13:55	106-99-0	
1,3-Dichlorobenzene	<0.89	ug/m3	5.1	0.89	1.68		09/14/16 13:55	541-73-1	
1,4-Dichlorobenzene	<0.84	ug/m3	2.0	0.84	1.68		09/14/16 13:55	106-46-7	
2-Butanone (MEK)	<0.38	ug/m3	5.0	0.38	1.68		09/14/16 13:55	78-93-3	
2-Hexanone	3.9J	ug/m3	8.7	0.69	1.68		09/14/16 13:55	591-78-6	
2-Propanol	15.9	ug/m3	4.2	0.40	1.68		09/14/16 13:55	67-63-0	
4-Ethyltoluene	2.1J	ug/m3	4.2	0.32	1.68		09/14/16 13:55	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.36	ug/m3	8.7	0.36	1.68		09/14/16 13:55	108-10-1	
Acetone	21.7	ug/m3	4.1	1.4	1.68		09/14/16 13:55	67-64-1	
Benzene	<0.20	ug/m3	0.55	0.20	1.68		09/14/16 13:55	71-43-2	
Benzyl chloride	<0.28	ug/m3	4.4	0.28	1.68		09/14/16 13:55	100-44-7	
Bromodichloromethane	<0.33	ug/m3	5.7	0.33	1.68		09/14/16 13:55	75-27-4	
Bromoform	<1.5	ug/m3	3.5	1.5	1.68		09/14/16 13:55	75-25-2	
Bromomethane	<0.52	ug/m3	1.3	0.52	1.68		09/14/16 13:55	74-83-9	
Carbon disulfide	<0.17	ug/m3	1.1	0.17	1.68		09/14/16 13:55	75-15-0	
Carbon tetrachloride	0.64J	ug/m3	1.1	0.32	1.68		09/14/16 13:55	56-23-5	
Chlorobenzene	<0.23	ug/m3	1.6	0.23	1.68		09/14/16 13:55	108-90-7	
Chloroethane	<0.33	ug/m3	0.91	0.33	1.68		09/14/16 13:55	75-00-3	
Chloroform	<0.32	ug/m3	0.83	0.32	1.68		09/14/16 13:55	67-66-3	
Chloromethane	0.95	ug/m3	0.71	0.18	1.68		09/14/16 13:55	74-87-3	
Cyclohexane	1.0J	ug/m3	2.9	0.53	1.68		09/14/16 13:55	110-82-7	
Dibromochloromethane	<1.4	ug/m3	7.3	1.4	1.68		09/14/16 13:55	124-48-1	
Dichlorodifluoromethane	2.2	ug/m3	1.7	0.81	1.68		09/14/16 13:55	75-71-8	
Dichlorotetrafluoroethane	<0.52	ug/m3	2.4	0.52	1.68		09/14/16 13:55	76-14-2	
Ethanol	72.9	ug/m3	1.6	0.45	1.68		09/14/16 13:55	64-17-5	
Ethyl acetate	0.90J	ug/m3	1.2	0.58	1.68		09/14/16 13:55	141-78-6	
Hexachloro-1,3-butadiene	<1.1	ug/m3	3.6	1.1	1.68		09/14/16 13:55	87-68-3	
Methyl-tert-butyl ether	<0.51	ug/m3	6.2	0.51	1.68		09/14/16 13:55	1634-04-4	
Methylene Chloride	<0.91	ug/m3	5.9	0.91	1.68		09/14/16 13:55	75-09-2	
Naphthalene	15.7	ug/m3	4.5	0.51	1.68		09/14/16 13:55	91-20-3	
Propylene	<0.23	ug/m3	0.59	0.23	1.68		09/14/16 13:55	115-07-1	
Styrene	1.9J	ug/m3	3.6	0.32	1.68		09/14/16 13:55	100-42-5	
Tetrachloroethene	<0.47	ug/m3	2.3	0.47	1.68		09/14/16 13:55	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: IA2-15608P-20160909 **Lab ID: 10362199008** Collected: 09/10/16 16:10 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.1J	ug/m3	2.5	0.20	1.68		09/14/16 13:55	109-99-9	
Toluene	3.7	ug/m3	1.3	0.26	1.68		09/14/16 13:55	108-88-3	
Trichloroethene	0.53J	ug/m3	0.92	0.46	1.68		09/14/16 13:55	79-01-6	
Trichlorofluoromethane	1.1J	ug/m3	1.9	0.22	1.68		09/14/16 13:55	75-69-4	
Vinyl acetate	<0.55	ug/m3	1.2	0.55	1.68		09/14/16 13:55	108-05-4	
Vinyl chloride	<0.33	ug/m3	0.44	0.33	1.68		09/14/16 13:55	75-01-4	
cis-1,2-Dichloroethene	<0.41	ug/m3	1.4	0.41	1.68		09/14/16 13:55	156-59-2	
cis-1,3-Dichloropropene	<0.62	ug/m3	1.5	0.62	1.68		09/14/16 13:55	10061-01-5	
m&p-Xylene	3.8J	ug/m3	7.4	1.3	1.68		09/14/16 13:55	179601-23-1	
n-Heptane	<0.47	ug/m3	3.5	0.47	1.68		09/14/16 13:55	142-82-5	
n-Hexane	0.68J	ug/m3	1.2	0.60	1.68		09/14/16 13:55	110-54-3	
o-Xylene	1.5	ug/m3	1.5	0.59	1.68		09/14/16 13:55	95-47-6	
trans-1,2-Dichloroethene	<0.65	ug/m3	1.4	0.65	1.68		09/14/16 13:55	156-60-5	
trans-1,3-Dichloropropene	<0.44	ug/m3	1.5	0.44	1.68		09/14/16 13:55	10061-02-6	

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: **OA1-BACK-20160909** Lab ID: **10362199009** Collected: 09/10/16 17:08 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
1,1,1-Trichloroethane	<0.38	ug/m3	1.7	0.38	1.55		09/14/16 14:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.51	ug/m3	5.4	0.51	1.55		09/14/16 14:26	79-34-5	
1,1,2-Trichloroethane	<0.38	ug/m3	0.85	0.38	1.55		09/14/16 14:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.47	ug/m3	2.5	0.47	1.55		09/14/16 14:26	76-13-1	
1,1-Dichloroethane	<0.24	ug/m3	1.3	0.24	1.55		09/14/16 14:26	75-34-3	
1,1-Dichloroethene	<0.37	ug/m3	3.1	0.37	1.55		09/14/16 14:26	75-35-4	
1,2,4-Trichlorobenzene	<1.4	ug/m3	5.8	1.4	1.55		09/14/16 14:26	120-82-1	
1,2,4-Trimethylbenzene	4.7	ug/m3	3.9	0.19	1.55		09/14/16 14:26	95-63-6	
1,2-Dibromoethane (EDB)	<1.2	ug/m3	6.1	1.2	1.55		09/14/16 14:26	106-93-4	
1,2-Dichlorobenzene	<0.79	ug/m3	1.9	0.79	1.55		09/14/16 14:26	95-50-1	
1,2-Dichloroethane	<0.32	ug/m3	0.64	0.32	1.55		09/14/16 14:26	107-06-2	
1,2-Dichloropropane	<0.42	ug/m3	1.5	0.42	1.55		09/14/16 14:26	78-87-5	
1,3,5-Trimethylbenzene	2.4J	ug/m3	3.9	0.28	1.55		09/14/16 14:26	108-67-8	
1,3-Butadiene	<0.27	ug/m3	0.70	0.27	1.55		09/14/16 14:26	106-99-0	
1,3-Dichlorobenzene	<0.82	ug/m3	4.7	0.82	1.55		09/14/16 14:26	541-73-1	
1,4-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		09/14/16 14:26	106-46-7	
2-Butanone (MEK)	5.7	ug/m3	4.6	0.35	1.55		09/14/16 14:26	78-93-3	
2-Hexanone	3.7J	ug/m3	8.1	0.64	1.55		09/14/16 14:26	591-78-6	
2-Propanol	3.5J	ug/m3	3.9	0.37	1.55		09/14/16 14:26	67-63-0	
4-Ethyltoluene	2.5J	ug/m3	3.9	0.29	1.55		09/14/16 14:26	622-96-8	
4-Methyl-2-pentanone (MIBK)	<0.34	ug/m3	8.1	0.34	1.55		09/14/16 14:26	108-10-1	
Acetone	21.3	ug/m3	3.7	1.3	1.55		09/14/16 14:26	67-64-1	
Benzene	0.64	ug/m3	0.50	0.19	1.55		09/14/16 14:26	71-43-2	
Benzyl chloride	<0.26	ug/m3	4.1	0.26	1.55		09/14/16 14:26	100-44-7	
Bromodichloromethane	<0.30	ug/m3	5.3	0.30	1.55		09/14/16 14:26	75-27-4	
Bromoform	<1.4	ug/m3	3.3	1.4	1.55		09/14/16 14:26	75-25-2	
Bromomethane	<0.48	ug/m3	1.2	0.48	1.55		09/14/16 14:26	74-83-9	
Carbon disulfide	<0.16	ug/m3	0.98	0.16	1.55		09/14/16 14:26	75-15-0	
Carbon tetrachloride	<0.30	ug/m3	0.99	0.30	1.55		09/14/16 14:26	56-23-5	
Chlorobenzene	<0.21	ug/m3	1.5	0.21	1.55		09/14/16 14:26	108-90-7	
Chloroethane	<0.30	ug/m3	0.84	0.30	1.55		09/14/16 14:26	75-00-3	
Chloroform	<0.29	ug/m3	0.77	0.29	1.55		09/14/16 14:26	67-66-3	
Chloromethane	0.91	ug/m3	0.65	0.17	1.55		09/14/16 14:26	74-87-3	
Cyclohexane	1.7J	ug/m3	2.7	0.49	1.55		09/14/16 14:26	110-82-7	
Dibromochloromethane	<1.3	ug/m3	6.7	1.3	1.55		09/14/16 14:26	124-48-1	
Dichlorodifluoromethane	2.3	ug/m3	1.6	0.74	1.55		09/14/16 14:26	75-71-8	
Dichlorotetrafluoroethane	<0.48	ug/m3	2.2	0.48	1.55		09/14/16 14:26	76-14-2	
Ethanol	13.9	ug/m3	1.5	0.41	1.55		09/14/16 14:26	64-17-5	
Ethyl acetate	<0.54	ug/m3	1.1	0.54	1.55		09/14/16 14:26	141-78-6	
Hexachloro-1,3-butadiene	<1.0	ug/m3	3.4	1.0	1.55		09/14/16 14:26	87-68-3	
Methyl-tert-butyl ether	<0.47	ug/m3	5.7	0.47	1.55		09/14/16 14:26	1634-04-4	
Methylene Chloride	23.4	ug/m3	5.5	0.84	1.55		09/14/16 14:26	75-09-2	
Naphthalene	6.6	ug/m3	4.1	0.47	1.55		09/14/16 14:26	91-20-3	
Propylene	<0.21	ug/m3	0.54	0.21	1.55		09/14/16 14:26	115-07-1	
Styrene	1.7J	ug/m3	3.4	0.30	1.55		09/14/16 14:26	100-42-5	
Tetrachloroethene	1.9J	ug/m3	2.1	0.43	1.55		09/14/16 14:26	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Sample: OA1-BACK-20160909 **Lab ID: 10362199009** Collected: 09/10/16 17:08 Received: 09/13/16 10:00 Matrix: Air

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR		Analytical Method: TO-15							
Tetrahydrofuran	1.5J	ug/m3	2.3	0.18	1.55		09/14/16 14:26	109-99-9	
Toluene	46.7	ug/m3	1.2	0.24	1.55		09/14/16 14:26	108-88-3	
Trichloroethene	1.4	ug/m3	0.85	0.43	1.55		09/14/16 14:26	79-01-6	
Trichlorofluoromethane	1.2J	ug/m3	1.8	0.20	1.55		09/14/16 14:26	75-69-4	
Vinyl acetate	<0.51	ug/m3	1.1	0.51	1.55		09/14/16 14:26	108-05-4	
Vinyl chloride	<0.30	ug/m3	0.40	0.30	1.55		09/14/16 14:26	75-01-4	
cis-1,2-Dichloroethene	<0.38	ug/m3	1.3	0.38	1.55		09/14/16 14:26	156-59-2	
cis-1,3-Dichloropropene	<0.57	ug/m3	1.4	0.57	1.55		09/14/16 14:26	10061-01-5	
m&p-Xylene	6.1J	ug/m3	6.8	1.2	1.55		09/14/16 14:26	179601-23-1	
n-Heptane	<0.43	ug/m3	3.2	0.43	1.55		09/14/16 14:26	142-82-5	
n-Hexane	3.3	ug/m3	1.1	0.55	1.55		09/14/16 14:26	110-54-3	
o-Xylene	2.5	ug/m3	1.4	0.54	1.55		09/14/16 14:26	95-47-6	
trans-1,2-Dichloroethene	<0.60	ug/m3	1.3	0.60	1.55		09/14/16 14:26	156-60-5	
trans-1,3-Dichloropropene	<0.40	ug/m3	1.4	0.40	1.55		09/14/16 14:26	10061-02-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

QC Batch: 435658 Analysis Method: TO-15
 QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
 Associated Lab Samples: 10362199001, 10362199002, 10362199003, 10362199004, 10362199005, 10362199006, 10362199007, 10362199008, 10362199009

METHOD BLANK: 2367629 Matrix: Air
 Associated Lab Samples: 10362199001, 10362199002, 10362199003, 10362199004, 10362199005, 10362199006, 10362199007, 10362199008, 10362199009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.25	1.1	0.25	09/14/16 09:46	
1,1,2,2-Tetrachloroethane	ug/m3	<0.33	3.5	0.33	09/14/16 09:46	
1,1,2-Trichloroethane	ug/m3	<0.25	0.55	0.25	09/14/16 09:46	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.30	1.6	0.30	09/14/16 09:46	
1,1-Dichloroethane	ug/m3	<0.16	0.82	0.16	09/14/16 09:46	
1,1-Dichloroethene	ug/m3	<0.24	2.0	0.24	09/14/16 09:46	
1,2,4-Trichlorobenzene	ug/m3	<0.91	3.8	0.91	09/14/16 09:46	
1,2,4-Trimethylbenzene	ug/m3	<0.12	2.5	0.12	09/14/16 09:46	
1,2-Dibromoethane (EDB)	ug/m3	<0.77	3.9	0.77	09/14/16 09:46	
1,2-Dichlorobenzene	ug/m3	<0.51	1.2	0.51	09/14/16 09:46	
1,2-Dichloroethane	ug/m3	<0.20	0.41	0.20	09/14/16 09:46	
1,2-Dichloropropane	ug/m3	<0.27	0.94	0.27	09/14/16 09:46	
1,3,5-Trimethylbenzene	ug/m3	<0.18	2.5	0.18	09/14/16 09:46	
1,3-Butadiene	ug/m3	<0.18	0.45	0.18	09/14/16 09:46	
1,3-Dichlorobenzene	ug/m3	<0.53	3.1	0.53	09/14/16 09:46	
1,4-Dichlorobenzene	ug/m3	<0.50	1.2	0.50	09/14/16 09:46	
2-Butanone (MEK)	ug/m3	<0.23	3.0	0.23	09/14/16 09:46	
2-Hexanone	ug/m3	<0.41	5.2	0.41	09/14/16 09:46	
2-Propanol	ug/m3	<0.24	2.5	0.24	09/14/16 09:46	
4-Ethyltoluene	ug/m3	<0.19	2.5	0.19	09/14/16 09:46	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.22	5.2	0.22	09/14/16 09:46	
Acetone	ug/m3	<0.83	2.4	0.83	09/14/16 09:46	
Benzene	ug/m3	<0.12	0.32	0.12	09/14/16 09:46	
Benzyl chloride	ug/m3	<0.17	2.6	0.17	09/14/16 09:46	
Bromodichloromethane	ug/m3	<0.19	3.4	0.19	09/14/16 09:46	
Bromoform	ug/m3	<0.90	2.1	0.90	09/14/16 09:46	
Bromomethane	ug/m3	<0.31	0.79	0.31	09/14/16 09:46	
Carbon disulfide	ug/m3	<0.10	0.63	0.10	09/14/16 09:46	
Carbon tetrachloride	ug/m3	<0.19	0.64	0.19	09/14/16 09:46	
Chlorobenzene	ug/m3	<0.13	0.94	0.13	09/14/16 09:46	
Chloroethane	ug/m3	<0.19	0.54	0.19	09/14/16 09:46	
Chloroform	ug/m3	<0.19	0.50	0.19	09/14/16 09:46	
Chloromethane	ug/m3	<0.11	0.42	0.11	09/14/16 09:46	
cis-1,2-Dichloroethene	ug/m3	<0.25	0.81	0.25	09/14/16 09:46	
cis-1,3-Dichloropropene	ug/m3	<0.37	0.92	0.37	09/14/16 09:46	
Cyclohexane	ug/m3	<0.32	1.7	0.32	09/14/16 09:46	
Dibromochloromethane	ug/m3	<0.86	4.3	0.86	09/14/16 09:46	
Dichlorodifluoromethane	ug/m3	<0.48	1.0	0.48	09/14/16 09:46	
Dichlorotetrafluoroethane	ug/m3	<0.31	1.4	0.31	09/14/16 09:46	
Ethanol	ug/m3	<0.26	0.96	0.26	09/14/16 09:46	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease
Pace Project No.: 10362199

METHOD BLANK: 2367629

Matrix: Air

Associated Lab Samples: 10362199001, 10362199002, 10362199003, 10362199004, 10362199005, 10362199006, 10362199007, 10362199008, 10362199009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.35	0.73	0.35	09/14/16 09:46	
Hexachloro-1,3-butadiene	ug/m3	<0.65	2.2	0.65	09/14/16 09:46	
m&p-Xylene	ug/m3	<0.79	4.4	0.79	09/14/16 09:46	
Methyl-tert-butyl ether	ug/m3	<0.30	3.7	0.30	09/14/16 09:46	
Methylene Chloride	ug/m3	<0.54	3.5	0.54	09/14/16 09:46	
n-Heptane	ug/m3	<0.28	2.1	0.28	09/14/16 09:46	
n-Hexane	ug/m3	<0.36	0.72	0.36	09/14/16 09:46	
Naphthalene	ug/m3	<0.30	2.7	0.30	09/14/16 09:46	
o-Xylene	ug/m3	<0.35	0.88	0.35	09/14/16 09:46	
Propylene	ug/m3	<0.14	0.35	0.14	09/14/16 09:46	
Styrene	ug/m3	<0.19	2.2	0.19	09/14/16 09:46	
Tetrachloroethene	ug/m3	<0.28	1.4	0.28	09/14/16 09:46	
Tetrahydrofuran	ug/m3	<0.12	1.5	0.12	09/14/16 09:46	
Toluene	ug/m3	<0.15	0.77	0.15	09/14/16 09:46	
trans-1,2-Dichloroethene	ug/m3	<0.38	0.81	0.38	09/14/16 09:46	
trans-1,3-Dichloropropene	ug/m3	<0.26	0.92	0.26	09/14/16 09:46	
Trichloroethene	ug/m3	<0.28	0.55	0.28	09/14/16 09:46	
Trichlorofluoromethane	ug/m3	<0.13	1.1	0.13	09/14/16 09:46	
Vinyl acetate	ug/m3	<0.33	0.72	0.33	09/14/16 09:46	
Vinyl chloride	ug/m3	<0.20	0.26	0.20	09/14/16 09:46	

LABORATORY CONTROL SAMPLE: 2367630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	63.0	114	60-143	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	70.6	101	49-150	
1,1,2-Trichloroethane	ug/m3	55.5	59.1	107	57-149	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	78.6	101	66-131	
1,1-Dichloroethane	ug/m3	41.2	38.8	94	62-139	
1,1-Dichloroethene	ug/m3	40.3	39.4	98	62-135	
1,2,4-Trichlorobenzene	ug/m3	75.5	62.7	83	55-146	
1,2,4-Trimethylbenzene	ug/m3	50	50.0	100	57-143	
1,2-Dibromoethane (EDB)	ug/m3	78.1	75.8	97	63-150	
1,2-Dichlorobenzene	ug/m3	61.2	68.0	111	57-141	
1,2-Dichloroethane	ug/m3	41.2	48.4	118	61-144	
1,2-Dichloropropane	ug/m3	47	50.0	106	63-144	
1,3,5-Trimethylbenzene	ug/m3	50	50.3	101	54-147	
1,3-Butadiene	ug/m3	22.5	24.4	108	61-140	
1,3-Dichlorobenzene	ug/m3	61.2	65.0	106	51-150	
1,4-Dichlorobenzene	ug/m3	61.2	67.9	111	57-143	
2-Butanone (MEK)	ug/m3	30	31.8	106	66-144	
2-Hexanone	ug/m3	104	99.2	95	63-147	
2-Propanol	ug/m3	125	127	101	54-146	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

LABORATORY CONTROL SAMPLE: 2367630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Ethyltoluene	ug/m3	50	50.2	100	56-150	
4-Methyl-2-pentanone (MIBK)	ug/m3	104	105	101	58-150	
Acetone	ug/m3	121	129	107	46-140	
Benzene	ug/m3	32.5	35.1	108	62-141	
Benzyl chloride	ug/m3	52.5	53.5	102	66-138	
Bromodichloromethane	ug/m3	68.2	64.9	95	58-149	
Bromoform	ug/m3	105	104	99	61-150	
Bromomethane	ug/m3	39.5	40.1	102	58-136	
Carbon disulfide	ug/m3	31.7	31.5	99	59-135	
Carbon tetrachloride	ug/m3	64	74.5	116	60-149	
Chlorobenzene	ug/m3	46.8	51.8	111	60-150	
Chloroethane	ug/m3	26.8	27.9	104	61-136	
Chloroform	ug/m3	49.7	55.7	112	65-138	
Chloromethane	ug/m3	21	23.9	114	62-133	
cis-1,2-Dichloroethene	ug/m3	40.3	45.9	114	65-139	
cis-1,3-Dichloropropene	ug/m3	46.2	48.5	105	61-149	
Cyclohexane	ug/m3	35	35.3	101	64-134	
Dibromochloromethane	ug/m3	86.6	87.3	101	59-150	
Dichlorodifluoromethane	ug/m3	50.3	51.8	103	63-134	
Dichlorotetrafluoroethane	ug/m3	71.1	76.9	108	62-134	
Ethanol	ug/m3	95.8	88.9	93	50-144	
Ethyl acetate	ug/m3	36.6	39.7	108	55-146	
Hexachloro-1,3-butadiene	ug/m3	108	115	106	42-150	
m&p-Xylene	ug/m3	88.3	86.1	97	59-146	
Methyl-tert-butyl ether	ug/m3	91.6	97.1	106	64-135	
Methylene Chloride	ug/m3	177	184	104	64-128	
n-Heptane	ug/m3	41.7	45.6	109	64-140	
n-Hexane	ug/m3	35.8	37.7	105	50-138	
Naphthalene	ug/m3	53.3	43.8	82	46-146	
o-Xylene	ug/m3	44.2	41.6	94	54-149	
Propylene	ug/m3	17.5	17.8	102	58-135	
Styrene	ug/m3	43.3	42.2	97	54-150	
Tetrachloroethene	ug/m3	69	73.1	106	60-142	
Tetrahydrofuran	ug/m3	30	30.1	100	56-143	
Toluene	ug/m3	38.3	41.8	109	61-138	
trans-1,2-Dichloroethene	ug/m3	40.3	40.6	101	67-137	
trans-1,3-Dichloropropene	ug/m3	46.2	48.2	104	59-145	
Trichloroethene	ug/m3	54.6	60.4	110	60-144	
Trichlorofluoromethane	ug/m3	57.1	57.5	101	59-134	
Vinyl acetate	ug/m3	35.8	34.5	97	55-143	
Vinyl chloride	ug/m3	26	29.1	112	63-135	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Freeman WA-Cenex Harvest Lease

Pace Project No.: 10362199

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10362199001	OA1-15710P-20160908	TO-15	435658		
10362199002	IA1-15710P-20160908	TO-15	435658		
10362199003	IA2-15608P-20160908	TO-15	435658		
10362199004	OA1-15809P-20160909	TO-15	435658		
10362199005	IA1-15809P-20160909	TO-15	435658		
10362199006	OA1-15710P-20160909	TO-15	435658		
10362199007	IA1-15710P-20160909	TO-15	435658		
10362199008	IA2-15608P-20160909	TO-15	435658		
10362199009	OA1-BACK-20160909	TO-15	435658		

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10362199



AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information: Company: VPRR - Gary Honesman Address: 221 Hedgeham Lane, Weymouth, MA 01988 Email To: _____ Phone: _____ Fax: _____ Requested Due Date/TAT: 24-Hour		Section B Required Project Information: Report To: CH2M Copy To: Steve Demas, Mike Menet Purchase Order No.: _____ Project Name: Freeman WA - Genex Harvest Project Number: Lease Site		Section C Invoice Information: Attention: Gary Honesman Company Name: VPRR Address: _____ Pace Quote Reference: _____ Pace Project Manager/Sales Rep: Jennifer Gross Pace Profile #: _____		Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE		Section E Required Project Information Valid Media Codes: MEDIA: TB, 1 Liter Summa Can, 6 Liter Summa Can, Low Volume Purif, High Volume Purif, Other		Section F Required Project Information Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section G Required Project Information Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____	
Section H Required Client Information: Company: _____ Address: _____ Email To: _____ Phone: _____ Fax: _____ Requested Due Date/TAT: _____		Section I Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section J Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section K Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section L Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section M Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section N Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____	
Section O Required Client Information: Company: _____ Address: _____ Email To: _____ Phone: _____ Fax: _____ Requested Due Date/TAT: _____		Section P Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section Q Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section R Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section S Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section T Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____		Section U Required Project Information: Report To: _____ Copy To: _____ Purchase Order No.: _____ Project Name: _____ Project Number: _____	

ITEM #	AIR SAMPLE ID	COLLECTED		MEDIA CODE	P/D Reading (Client only)	COMPOSITE START ENDING		SUMMA CAN NUMBER	FLOW CONTROL NUMBER	METHODS	REQUISISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		SAMPLE CONDITIONS		
		DATE	TIME			DATE	TIME				DATE	TIME	DATE	TIME	Temp in C	Received on Ice	Custody Sealed Cooler
1	OAI-15809P-20160909	9-9-16	1645	6LC	9-9-16	1557	2814	279P	FC 0848		Eric Eagle / CH2M	9-12-16	1700	Eric Eagle	9-13-16	1000	AMB
2	OAI-15710P-20160908	9-8-16	1648	6LC	9-9-16	1632	2822	933	FC 1101								
3	IAI-15710P-20160908	9-8-16	1642	6LC	9-9-16	1638	2748	1736	FC 0850								
4	IA2-15688P-20160908	9-9-16	1677	6LC	9-10-16	1652	2821	1533	FC 0068								
5	OAI-15809P-20160909	9-9-16	1624	6LC	9-10-16	1650	2828	0005	FC 0528								
6	IAI-15710P-20160909	9-9-16	1656	6LC	9-10-16	1607	2801	725	FC 3299								
7	IAI-15710P-20160909	9-9-16	1658	6LC	9-10-16	1606	2804	630	FC 860								
8	IA2-15688P-20160909	9-9-16	1656	6LC	9-10-16	1610	2814	1562	FC 1118								
9	OAI-15809P-20160909	9-9-16	1805	6LC	9-10-16	1708	2670	634	FC 013								
10																	
11																	
12																	


Comments:
 - Full VOC list
 - 24-Hour TAT

3

Air Sample Condition Upon Receipt

Client Name: UPRR Project #: _____

WO#: 10362199



10362199

Courier: Fed Ex UPS Speedee Client
 Commercial Pace Other: _____

Tracking Number: 78406071077, 784060692807
7840606027n

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags Foam None Tin Can Other: _____ Temp Blank rec: Yes No

Temp. (TO17 and TO13 samples only) (°C): Y Corrected Temp (°C): Y Thermom. Used: B88A912167504 151401163
 B88A0143310098 151401164

Temp should be above freezing to 6°C Correction Factor: Y Date & Initials of Person Examining Contents: 9/13/16

Type of ice Received Blue Wet None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive				11.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	12.

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID
<u>unused</u>	<u>1561</u>	<u>0235</u>			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS Date: 09/13/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 13, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

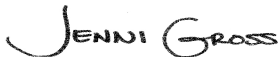
RE: Project: UPRR-Freeman WA-Grain Handling
Pace Project No.: 10365592

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on October 11, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Maggie Fitzgerald, CH2M
Mike Niemet, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR-Freeman WA-Grain Handling
Pace Project No.: 10365592

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: UPRR-Freeman WA-Grain Handling
Pace Project No.: 10365592

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10365592001	Freeman-Marlow#2-100716	Water	10/07/16 12:40	10/11/16 09:30

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SAMPLE ANALYTE COUNT

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10365592001	Freeman-Marlow#2-100716	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10365592001	Freeman-Marlow#2-100716					
EPA 8260B	Carbon disulfide	0.37J	ug/L	1.0	10/12/16 14:53	
EPA 8260B	Carbon tetrachloride	120	ug/L	1.0	10/12/16 14:53	M1
EPA 8260B	Chloroform	6.7	ug/L	1.0	10/12/16 14:53	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: October 13, 2016

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 440634

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10365592001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2396880)
 - Carbon tetrachloride
- MSD (Lab ID: 2396881)
 - Carbon tetrachloride

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR-Freeman WA-Grain Handling

Sample Project No.: 10365592

Sample: Freeman-Marlow#2-100716 Lab ID: 10365592001 Collected: 10/07/16 12:40 Received: 10/11/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/12/16 14:53	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/12/16 14:53	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/12/16 14:53	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/12/16 14:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/12/16 14:53	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/12/16 14:53	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/12/16 14:53	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/12/16 14:53	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	4.0	0.17	1		10/12/16 14:53	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/12/16 14:53	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/12/16 14:53	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	1.0	0.068	1		10/12/16 14:53	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		10/12/16 14:53	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/12/16 14:53	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/12/16 14:53	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/12/16 14:53	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/12/16 14:53	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/12/16 14:53	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/12/16 14:53	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/12/16 14:53	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/12/16 14:53	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/12/16 14:53	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/12/16 14:53	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/12/16 14:53	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/12/16 14:53	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/12/16 14:53	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/12/16 14:53	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/12/16 14:53	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/12/16 14:53	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/12/16 14:53	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/12/16 14:53	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/12/16 14:53	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/12/16 14:53	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/12/16 14:53	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/12/16 14:53	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/12/16 14:53	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		10/12/16 14:53	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		10/12/16 14:53	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/12/16 14:53	74-83-9	
Carbon disulfide	0.37J	ug/L	1.0	0.20	1		10/12/16 14:53	75-15-0	
Carbon tetrachloride	120	ug/L	1.0	0.079	1		10/12/16 14:53	56-23-5	M1
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/12/16 14:53	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/12/16 14:53	75-00-3	
Chloroform	6.7	ug/L	1.0	0.21	1		10/12/16 14:53	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/12/16 14:53	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		10/12/16 14:53	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Sample: Freeman-Marlow#2-100716 Lab ID: 10365592001 Collected: 10/07/16 12:40 Received: 10/11/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/12/16 14:53	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/12/16 14:53	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/12/16 14:53	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/12/16 14:53	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/12/16 14:53	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/12/16 14:53	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		10/12/16 14:53	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/12/16 14:53	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/12/16 14:53	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/12/16 14:53	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		10/12/16 14:53	91-20-3	
Styrene	<0.056	ug/L	1.0	0.056	1		10/12/16 14:53	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/12/16 14:53	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/12/16 14:53	109-99-9	
Toluene	<0.059	ug/L	1.0	0.059	1		10/12/16 14:53	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/12/16 14:53	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		10/12/16 14:53	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/12/16 14:53	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/12/16 14:53	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/12/16 14:53	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/12/16 14:53	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/12/16 14:53	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/12/16 14:53	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		10/12/16 14:53	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/12/16 14:53	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/12/16 14:53	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	1.0	0.064	1		10/12/16 14:53	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/12/16 14:53	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	1.0	0.073	1		10/12/16 14:53	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/12/16 14:53	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/12/16 14:53	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/12/16 14:53	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/12/16 14:53	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/12/16 14:53	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		10/12/16 14:53	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		10/12/16 14:53	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		10/12/16 14:53	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR-Freeman WA-Grain Handling
Pace Project No.: 10365592

QC Batch: 440634 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10365592001

METHOD BLANK: 2396828 Matrix: Water
Associated Lab Samples: 10365592001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	10/12/16 13:03	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	10/12/16 13:03	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	10/12/16 13:03	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	10/12/16 13:03	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	10/12/16 13:03	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	10/12/16 13:03	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	10/12/16 13:03	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	10/12/16 13:03	
1,2,3-Trichlorobenzene	ug/L	<0.17	4.0	0.17	10/12/16 13:03	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	10/12/16 13:03	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	10/12/16 13:03	
1,2,4-Trimethylbenzene	ug/L	<0.068	1.0	0.068	10/12/16 13:03	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	10.0	0.60	10/12/16 13:03	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	10/12/16 13:03	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	10/12/16 13:03	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	10/12/16 13:03	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	10/12/16 13:03	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	10/12/16 13:03	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	10/12/16 13:03	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	10/12/16 13:03	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	10/12/16 13:03	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	10/12/16 13:03	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	10/12/16 13:03	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	10/12/16 13:03	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	10/12/16 13:03	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	10/12/16 13:03	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	10/12/16 13:03	
2-Hexanone	ug/L	<0.19	5.0	0.19	10/12/16 13:03	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	10/12/16 13:03	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	10/12/16 13:03	
Acetone	ug/L	<0.64	20.0	0.64	10/12/16 13:03	
Acrolein	ug/L	<2.1	10.0	2.1	10/12/16 13:03	
Acrylonitrile	ug/L	<0.49	10.0	0.49	10/12/16 13:03	
Benzene	ug/L	<0.042	0.50	0.042	10/12/16 13:03	
Bromobenzene	ug/L	<0.087	0.50	0.087	10/12/16 13:03	
Bromochloromethane	ug/L	<0.082	1.0	0.082	10/12/16 13:03	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	10/12/16 13:03	
Bromoform	ug/L	<0.11	4.0	0.11	10/12/16 13:03	
Bromomethane	ug/L	<0.20	4.0	0.20	10/12/16 13:03	
Carbon disulfide	ug/L	<0.20	1.0	0.20	10/12/16 13:03	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	10/12/16 13:03	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

METHOD BLANK: 2396828

Matrix: Water

Associated Lab Samples: 10365592001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	10/12/16 13:03	
Chloroethane	ug/L	<0.12	1.0	0.12	10/12/16 13:03	
Chloroform	ug/L	<0.21	1.0	0.21	10/12/16 13:03	
Chloromethane	ug/L	<0.080	4.0	0.080	10/12/16 13:03	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	10/12/16 13:03	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	10/12/16 13:03	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	10/12/16 13:03	
Dibromomethane	ug/L	<0.14	1.0	0.14	10/12/16 13:03	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	10/12/16 13:03	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	10/12/16 13:03	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	10/12/16 13:03	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	10/12/16 13:03	
Ethylbenzene	ug/L	<0.075	0.50	0.075	10/12/16 13:03	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	10/12/16 13:03	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	10/12/16 13:03	
m&p-Xylene	ug/L	<0.11	1.0	0.11	10/12/16 13:03	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	10/12/16 13:03	
Methylene Chloride	ug/L	<0.097	4.0	0.097	10/12/16 13:03	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	10/12/16 13:03	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	10/12/16 13:03	
Naphthalene	ug/L	<0.064	4.0	0.064	10/12/16 13:03	
o-Xylene	ug/L	<0.044	0.50	0.044	10/12/16 13:03	
p-Isopropyltoluene	ug/L	<0.064	1.0	0.064	10/12/16 13:03	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	10/12/16 13:03	
Styrene	ug/L	<0.056	1.0	0.056	10/12/16 13:03	
tert-Amylmethyl ether	ug/L	<0.073	1.0	0.073	10/12/16 13:03	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	10/12/16 13:03	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	10/12/16 13:03	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	10/12/16 13:03	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	10/12/16 13:03	
Toluene	ug/L	<0.059	1.0	0.059	10/12/16 13:03	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	10/12/16 13:03	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	10/12/16 13:03	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	10/12/16 13:03	
Trichloroethene	ug/L	<0.044	0.40	0.044	10/12/16 13:03	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	10/12/16 13:03	
Vinyl acetate	ug/L	<0.12	10.0	0.12	10/12/16 13:03	
Vinyl chloride	ug/L	<0.098	0.20	0.098	10/12/16 13:03	
Xylene (Total)	ug/L	<0.15	1.5	0.15	10/12/16 13:03	
1,2-Dichloroethane-d4 (S)	%	108	75-125		10/12/16 13:03	
4-Bromofluorobenzene (S)	%	102	75-125		10/12/16 13:03	
Toluene-d8 (S)	%	102	75-125		10/12/16 13:03	

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QUALITY CONTROL DATA

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

LABORATORY CONTROL SAMPLE: 2396829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	99	75-125	
1,1,1-Trichloroethane	ug/L	20	18.5	92	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	67-131	
1,1,2-Trichloroethane	ug/L	20	20.2	101	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.6	88	75-125	
1,1-Dichloroethane	ug/L	20	20.8	104	74-125	
1,1-Dichloroethene	ug/L	20	19.2	96	74-125	
1,1-Dichloropropene	ug/L	20	17.1	85	74-125	
1,2,3-Trichlorobenzene	ug/L	20	18.8	94	63-131	
1,2,3-Trichloropropane	ug/L	20	18.3	91	73-125	
1,2,4-Trichlorobenzene	ug/L	20	18.6	93	66-126	
1,2,4-Trimethylbenzene	ug/L	20	18.7	94	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	44.9	90	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.3	102	75-125	
1,2-Dichlorobenzene	ug/L	20	19.1	95	75-125	
1,2-Dichloroethane	ug/L	20	20.2	101	75-125	
1,2-Dichloroethene (Total)	ug/L	40	38.4	96	75-125	
1,2-Dichloropropane	ug/L	20	18.9	94	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.0	100	73-127	
1,3-Dichlorobenzene	ug/L	20	18.7	93	75-125	
1,3-Dichloropropane	ug/L	20	19.6	98	69-125	
1,4-Dichlorobenzene	ug/L	20	18.8	94	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	312	78	70-130	
2,2,4-Trimethylpentane	ug/L	20	16.2	81	67-138	
2,2-Dichloropropane	ug/L	20	19.9	100	69-125	
2-Butanone (MEK)	ug/L	100	83.5	84	48-145	
2-Chlorotoluene	ug/L	20	19.0	95	74-125	
2-Hexanone	ug/L	100	103	103	63-135	
4-Chlorotoluene	ug/L	20	19.7	99	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	53-138	
Acetone	ug/L	100	93.0	93	70-142	
Acrolein	ug/L	200	172	86	44-150	
Acrylonitrile	ug/L	200	206	103	68-125	
Benzene	ug/L	20	18.0	90	65-125	
Bromobenzene	ug/L	20	19.7	98	75-125	
Bromochloromethane	ug/L	20	20.6	103	75-125	
Bromodichloromethane	ug/L	20	19.9	100	73-125	
Bromoform	ug/L	20	20.5	102	69-125	
Bromomethane	ug/L	20	17.8	89	40-136	
Carbon disulfide	ug/L	20	19.8	99	36-150	
Carbon tetrachloride	ug/L	20	18.7	94	70-125	
Chlorobenzene	ug/L	20	19.0	95	75-125	
Chloroethane	ug/L	20	20.0	100	67-141	
Chloroform	ug/L	20	19.7	99	75-125	
Chloromethane	ug/L	20	21.1	106	50-150	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.8	99	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

LABORATORY CONTROL SAMPLE: 2396829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	21.6	108	75-125	
Dibromomethane	ug/L	20	20.2	101	75-129	
Dichlorodifluoromethane	ug/L	20	17.4	87	59-135	
Dichlorofluoromethane	ug/L	20	19.1	96	74-130	
Diisopropyl ether	ug/L	20	20.1	100	71-125	
Ethyl-tert-butyl ether	ug/L	20	20.6	103	70-130	
Ethylbenzene	ug/L	20	20.2	101	75-125	
Hexachloro-1,3-butadiene	ug/L	20	19.9	100	72-126	
Isopropylbenzene (Cumene)	ug/L	20	18.5	93	71-136	
m&p-Xylene	ug/L	40	41.3	103	75-125	
Methyl-tert-butyl ether	ug/L	20	19.8	99	73-127	
Methylene Chloride	ug/L	20	19.7	99	68-128	
n-Butylbenzene	ug/L	20	17.9	90	70-126	
n-Propylbenzene	ug/L	20	19.2	96	67-131	
Naphthalene	ug/L	20	16.7	84	52-134	
o-Xylene	ug/L	20	20.1	100	75-125	
p-Isopropyltoluene	ug/L	20	18.5	92	74-125	
sec-Butylbenzene	ug/L	20	20.1	101	69-134	
Styrene	ug/L	20	19.0	95	75-125	
tert-Amylmethyl ether	ug/L	20	19.3	96	70-130	
tert-Butyl Alcohol	ug/L	200	179	89	66-128	
tert-Butylbenzene	ug/L	20	19.0	95	71-128	
Tetrachloroethene	ug/L	20	19.6	98	74-125	
Tetrahydrofuran	ug/L	200	180	90	64-142	
Toluene	ug/L	20	19.0	95	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	73-125	
trans-1,3-Dichloropropene	ug/L	20	21.7	109	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	50.4	101	54-133	
Trichloroethene	ug/L	20	18.6	93	75-125	
Trichlorofluoromethane	ug/L	20	18.1	91	75-126	
Vinyl acetate	ug/L	20	19.7	99	67-126	
Vinyl chloride	ug/L	20	18.8	94	72-125	
Xylene (Total)	ug/L	60	61.3	102	75-125	
1,2-Dichloroethane-d4 (S)	%			98	75-125	
4-Bromofluorobenzene (S)	%			97	75-125	
Toluene-d8 (S)	%			98	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2396880 2396881

Parameter	Units	2396880		2396881		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	19.0	20.3	95	101	75-127	7	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	21.0	21.0	105	105	66-142	0	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	17.2	18.6	86	93	70-131	8	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.3	19.6	92	98	75-128	7	30

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QUALITY CONTROL DATA

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Parameter	Units	10365592001		2396880		2396881		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	22.8	25.1	114	125	54-150	9	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	20.6	18.4	103	92	58-147	11	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	20.7	22.6	103	113	49-150	9	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	19.1	19.3	96	96	58-147	1	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	17.7	19.7	89	98	57-139	11	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	17.3	18.6	86	93	71-127	8	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	18.2	20.5	91	102	55-136	12	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.4	19.4	87	97	67-138	11	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	41.3	46.6	83	93	63-136	12	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.7	20.3	94	102	74-125	8	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.4	19.4	87	97	75-125	11	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.5	20.1	93	101	63-133	8	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	38.1	40.0	95	100	55-146	5	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	17.9	18.9	89	94	63-138	5	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	19.0	20.8	95	104	69-136	9	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.7	19.3	89	97	75-125	9	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	18.2	19.3	91	97	65-135	6	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	16.9	18.8	84	94	70-126	11	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	311	401	78	100	54-145	25	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	23.0	22.7	115	114	30-150	1	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	20.1	20.9	101	105	39-148	4	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	83.3	77.6	83	78	50-144	7	30		
2-Chlorotoluene	ug/L	<0.084	20	20	18.0	19.8	90	99	71-135	10	30		
2-Hexanone	ug/L	<0.19	100	100	93.1	103	93	103	43-150	10	30		
4-Chlorotoluene	ug/L	<0.048	20	20	18.3	20.1	91	101	71-131	10	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	93.5	100	93	100	60-147	7	30		
Acetone	ug/L	<0.64	100	100	92.3	99.8	92	100	59-150	8	30		
Acrolein	ug/L	<2.1	200	200	225	253	112	127	30-150	12	30		
Acrylonitrile	ug/L	<0.49	200	200	191	171	95	85	41-148	11	30		
Benzene	ug/L	<0.042	20	20	17.8	18.4	89	92	61-138	3	30		
Bromobenzene	ug/L	<0.087	20	20	18.2	19.8	91	99	74-130	9	30		
Bromochloromethane	ug/L	<0.082	20	20	17.9	18.6	90	93	65-137	4	30		
Bromodichloromethane	ug/L	<0.068	20	20	18.9	20.4	95	102	66-136	7	30		
Bromoform	ug/L	<0.11	20	20	19.8	21.4	99	107	71-125	8	30		
Bromomethane	ug/L	<0.20	20	20	23.1	24.5	115	122	30-150	6	30		
Carbon disulfide	ug/L	0.37J	20	20	21.4	23.8	105	117	30-150	11	30		
Carbon tetrachloride	ug/L	120	20	20	123	125	15	23	68-140	1	30	M1	
Chlorobenzene	ug/L	<0.066	20	20	17.9	19.6	90	98	75-132	9	30		
Chloroethane	ug/L	<0.12	20	20	22.9	23.5	114	118	55-150	3	30		
Chloroform	ug/L	6.7	20	20	23.9	25.2	86	92	64-139	5	30		
Chloromethane	ug/L	<0.080	20	20	23.8	22.5	119	112	73-150	6	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	18.6	18.7	93	94	62-138	1	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.0	19.1	90	95	70-125	6	30		
Dibromochloromethane	ug/L	<0.048	20	20	20.0	21.1	100	105	74-125	5	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Parameter	Units	10365592001		2396880		2396881		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Dibromomethane	ug/L	<0.14	20	20	18.9	20.3	95	101	66-138	7	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	23.4	23.0	117	115	53-150	2	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.6	22.3	108	112	58-150	3	30		
Diisopropyl ether	ug/L	<0.050	20	20	19.3	18.0	97	90	50-139	7	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	18.6	18.4	93	92	30-140	1	30		
Ethylbenzene	ug/L	<0.075	20	20	19.4	21.2	97	106	66-141	9	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	23.3	23.1	117	115	63-139	1	30		
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.7	19.3	88	97	65-146	9	30		
m&p-Xylene	ug/L	<0.11	40	40	39.4	42.8	98	107	72-142	8	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	18.9	20.0	94	100	63-134	6	30		
Methylene Chloride	ug/L	<0.097	20	20	19.4	20.8	97	104	49-143	7	30		
n-Butylbenzene	ug/L	<0.16	20	20	18.3	20.0	91	100	67-134	9	30		
n-Propylbenzene	ug/L	<0.049	20	20	18.3	20.5	92	102	62-142	11	30		
Naphthalene	ug/L	<0.064	20	20	15.2	17.1	76	85	41-150	12	30		
o-Xylene	ug/L	<0.044	20	20	19.2	20.9	96	104	66-138	8	30		
p-Isopropyltoluene	ug/L	<0.064	20	20	17.8	20.0	89	100	64-137	12	30		
sec-Butylbenzene	ug/L	<0.094	20	20	20.1	22.1	100	111	65-142	10	30		
Styrene	ug/L	<0.056	20	20	17.3	19.2	86	96	61-142	11	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	17.4	18.6	87	93	65-125	7	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	183	205	91	103	59-138	12	30		
tert-Butylbenzene	ug/L	<0.051	20	20	18.6	20.7	93	103	69-135	10	30		
Tetrachloroethene	ug/L	<0.13	20	20	19.3	20.8	97	104	62-142	7	30		
Tetrahydrofuran	ug/L	<1.5	200	200	194	183	97	91	55-150	6	30		
Toluene	ug/L	<0.059	20	20	18.3	19.8	92	99	66-132	8	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.6	21.3	98	106	48-150	9	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	20.2	21.6	101	108	65-130	7	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	48.9	52.3	98	105	31-150	7	30		
Trichloroethene	ug/L	<0.044	20	20	18.9	20.6	95	103	64-142	9	30		
Trichlorofluoromethane	ug/L	<0.055	20	20	23.7	23.8	119	119	63-150	0	30		
Vinyl acetate	ug/L	<0.12	20	20	17.8	17.7	89	88	30-150	1	30		
Vinyl chloride	ug/L	<0.098	20	20	22.6	22.3	113	112	58-150	1	30		
Xylene (Total)	ug/L	<0.15	60	60	58.6	63.7	98	106	70-140	8	30		
1,2-Dichloroethane-d4 (S)	%						95	94	75-125				
4-Bromofluorobenzene (S)	%						98	100	75-125				
Toluene-d8 (S)	%						98	98	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR-Freeman WA-Grain Handling

Pace Project No.: 10365592

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10365592001	Freeman-Marlow#2-100716	EPA 8260B	440634		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt **Client Name:** CH2M Hill **Project #:** _____

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____

Tracking Number: 7021 4575 1993

WO# : 10365592

10365592

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer Used: 151401163 B88A912167504 B88A0143310098 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 5.4 **Cooler Temp Corrected (°C):** 5.0 **Biological Tissue Frozen?** Yes No N/A

Temp should be above freezing to 6°C **Correction Factor:** 10.2 **Date and Initials of Person Examining Contents:** 10-11/16/16

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>Wt</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: <u>VOA</u> Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS **Date:** 10/11/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

October 26, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

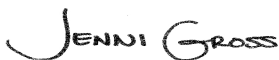
RE: Project: UPRR_Freeman
Pace Project No.: 10366684

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on October 19, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Maggie Fitzgerald, CH2M
Mike Niemet, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR_Freeman

Pace Project No.: 10366684

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR_Freeman
Pace Project No.: 10366684

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10366684001	Freeman-Lang-101816	Water	10/18/16 11:00	10/19/16 09:30

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SAMPLE ANALYTE COUNT

Project: UPRR_Freeman
Pace Project No.: 10366684

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10366684001	Freeman-Lang-101816	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: UPRR_Freeman

Pace Project No.: 10366684

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10366684001	Freeman-Lang-101816					
EPA 8260B	1,2,4-Trimethylbenzene	0.25J	ug/L	0.50	10/25/16 12:47	
EPA 8260B	1,3,5-Trimethylbenzene	0.098J	ug/L	0.50	10/25/16 12:47	
EPA 8260B	Acetone	37.3	ug/L	20.0	10/25/16 12:47	
EPA 8260B	Chloroform	1.9	ug/L	1.0	10/25/16 12:47	
EPA 8260B	Ethylbenzene	0.13J	ug/L	0.50	10/25/16 12:47	
EPA 8260B	Toluene	4.5	ug/L	0.50	10/25/16 12:47	
EPA 8260B	m&p-Xylene	0.40J	ug/L	1.0	10/25/16 12:47	
EPA 8260B	n-Propylbenzene	0.072J	ug/L	0.50	10/25/16 12:47	
EPA 8260B	o-Xylene	0.19J	ug/L	0.50	10/25/16 12:47	
EPA 8260B	tert-Butyl Alcohol	4.9J	ug/L	10.0	10/25/16 12:47	

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PROJECT NARRATIVE

Project: UPRR_Freeman
Pace Project No.: 10366684

Method: EPA 8260B
Description: 8260B MSV Low Level
Client: UPRR_CH2M Hill
Date: October 26, 2016

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 443076

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2414714)
 - Acrolein
- LCSD (Lab ID: 2414715)
 - Acrolein
- MS (Lab ID: 2414716)
 - Acrolein

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 443076

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2414714)
 - Acrolein
- LCSD (Lab ID: 2414715)
 - Acrolein

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR_Freeman

Pace Project No.: 10366684

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: October 26, 2016

QC Batch: 443076

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 443076

1M: Analyte was non-detect when evaluated to the MDL.

- Freeman-Lang-101816 (Lab ID: 10366684001)
 - Carbon tetrachloride

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 10366684

Sample: Freeman-Lang-101816 Lab ID: 10366684001 Collected: 10/18/16 11:00 Received: 10/19/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/25/16 12:47	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/25/16 12:47	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/25/16 12:47	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/25/16 12:47	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/25/16 12:47	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/25/16 12:47	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/25/16 12:47	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/25/16 12:47	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/25/16 12:47	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/25/16 12:47	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/25/16 12:47	120-82-1	
1,2,4-Trimethylbenzene	0.25J	ug/L	0.50	0.068	1		10/25/16 12:47	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/25/16 12:47	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/25/16 12:47	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/25/16 12:47	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/25/16 12:47	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/25/16 12:47	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/25/16 12:47	78-87-5	
1,3,5-Trimethylbenzene	0.098J	ug/L	0.50	0.042	1		10/25/16 12:47	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/25/16 12:47	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/25/16 12:47	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/25/16 12:47	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/25/16 12:47	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/25/16 12:47	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/25/16 12:47	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/25/16 12:47	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/25/16 12:47	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/25/16 12:47	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/25/16 12:47	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/25/16 12:47	108-10-1	
Acetone	37.3	ug/L	20.0	0.64	1		10/25/16 12:47	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/25/16 12:47	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/25/16 12:47	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/25/16 12:47	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/25/16 12:47	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/25/16 12:47	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		10/25/16 12:47	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		10/25/16 12:47	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/25/16 12:47	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/25/16 12:47	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		10/25/16 12:47	56-23-5	1M
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/25/16 12:47	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/25/16 12:47	75-00-3	
Chloroform	1.9	ug/L	1.0	0.21	1		10/25/16 12:47	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/25/16 12:47	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		10/25/16 12:47	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR_Freeman

Pace Project No.: 10366684

Sample: Freeman-Lang-101816 Lab ID: 10366684001 Collected: 10/18/16 11:00 Received: 10/19/16 09:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/25/16 12:47	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/25/16 12:47	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/25/16 12:47	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/25/16 12:47	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/25/16 12:47	637-92-3	
Ethylbenzene	0.13J	ug/L	0.50	0.075	1		10/25/16 12:47	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/25/16 12:47	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/25/16 12:47	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/25/16 12:47	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/25/16 12:47	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/25/16 12:47	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/25/16 12:47	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/25/16 12:47	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/25/16 12:47	109-99-9	
Toluene	4.5	ug/L	0.50	0.059	1		10/25/16 12:47	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/25/16 12:47	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		10/25/16 12:47	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/25/16 12:47	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/25/16 12:47	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/25/16 12:47	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/25/16 12:47	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/25/16 12:47	10061-01-5	
m&p-Xylene	0.40J	ug/L	1.0	0.11	1		10/25/16 12:47	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/25/16 12:47	104-51-8	
n-Propylbenzene	0.072J	ug/L	0.50	0.049	1		10/25/16 12:47	103-65-1	
o-Xylene	0.19J	ug/L	0.50	0.044	1		10/25/16 12:47	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/25/16 12:47	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/25/16 12:47	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/25/16 12:47	994-05-8	
tert-Butyl Alcohol	4.9J	ug/L	10.0	0.89	1		10/25/16 12:47	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/25/16 12:47	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/25/16 12:47	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/25/16 12:47	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/25/16 12:47	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		10/25/16 12:47	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/25/16 12:47	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		10/25/16 12:47	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman
Pace Project No.: 10366684

QC Batch: 443076 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10366684001

METHOD BLANK: 2414713 Matrix: Water
Associated Lab Samples: 10366684001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	10/25/16 10:58	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	10/25/16 10:58	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	10/25/16 10:58	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	10/25/16 10:58	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	10/25/16 10:58	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	10/25/16 10:58	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	10/25/16 10:58	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	10/25/16 10:58	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	10/25/16 10:58	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	10/25/16 10:58	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	10/25/16 10:58	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	10/25/16 10:58	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	10/25/16 10:58	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	10/25/16 10:58	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	10/25/16 10:58	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	10/25/16 10:58	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	10/25/16 10:58	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	10/25/16 10:58	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	10/25/16 10:58	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	10/25/16 10:58	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	10/25/16 10:58	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	10/25/16 10:58	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	10/25/16 10:58	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	10/25/16 10:58	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	10/25/16 10:58	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	10/25/16 10:58	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	10/25/16 10:58	
2-Hexanone	ug/L	<0.19	5.0	0.19	10/25/16 10:58	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	10/25/16 10:58	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	10/25/16 10:58	
Acetone	ug/L	<0.64	20.0	0.64	10/25/16 10:58	
Acrolein	ug/L	<2.1	10.0	2.1	10/25/16 10:58	
Acrylonitrile	ug/L	<0.49	10.0	0.49	10/25/16 10:58	
Benzene	ug/L	<0.042	0.50	0.042	10/25/16 10:58	
Bromobenzene	ug/L	<0.087	0.50	0.087	10/25/16 10:58	
Bromochloromethane	ug/L	<0.082	1.0	0.082	10/25/16 10:58	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	10/25/16 10:58	
Bromoform	ug/L	<0.11	4.0	0.11	10/25/16 10:58	
Bromomethane	ug/L	<0.20	4.0	0.20	10/25/16 10:58	
Carbon disulfide	ug/L	<0.20	1.0	0.20	10/25/16 10:58	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	10/25/16 10:58	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

METHOD BLANK: 2414713

Matrix: Water

Associated Lab Samples: 10366684001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	10/25/16 10:58	
Chloroethane	ug/L	<0.12	1.0	0.12	10/25/16 10:58	
Chloroform	ug/L	<0.21	1.0	0.21	10/25/16 10:58	
Chloromethane	ug/L	<0.080	4.0	0.080	10/25/16 10:58	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	10/25/16 10:58	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	10/25/16 10:58	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	10/25/16 10:58	
Dibromomethane	ug/L	<0.14	1.0	0.14	10/25/16 10:58	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	10/25/16 10:58	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	10/25/16 10:58	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	10/25/16 10:58	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	10/25/16 10:58	
Ethylbenzene	ug/L	<0.075	0.50	0.075	10/25/16 10:58	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	10/25/16 10:58	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	10/25/16 10:58	
m&p-Xylene	ug/L	<0.11	1.0	0.11	10/25/16 10:58	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	10/25/16 10:58	
Methylene Chloride	ug/L	<0.097	4.0	0.097	10/25/16 10:58	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	10/25/16 10:58	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	10/25/16 10:58	
Naphthalene	ug/L	<0.064	1.0	0.064	10/25/16 10:58	
o-Xylene	ug/L	<0.044	0.50	0.044	10/25/16 10:58	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	10/25/16 10:58	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	10/25/16 10:58	
Styrene	ug/L	<0.056	0.50	0.056	10/25/16 10:58	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	10/25/16 10:58	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	10/25/16 10:58	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	10/25/16 10:58	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	10/25/16 10:58	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	10/25/16 10:58	
Toluene	ug/L	<0.059	0.50	0.059	10/25/16 10:58	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	10/25/16 10:58	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	10/25/16 10:58	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	10/25/16 10:58	
Trichloroethene	ug/L	<0.044	0.40	0.044	10/25/16 10:58	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	10/25/16 10:58	
Vinyl acetate	ug/L	<0.12	10.0	0.12	10/25/16 10:58	
Vinyl chloride	ug/L	<0.098	0.20	0.098	10/25/16 10:58	
Xylene (Total)	ug/L	<0.15	1.5	0.15	10/25/16 10:58	
1,2-Dichloroethane-d4 (S)	%	107	75-125		10/25/16 10:58	
4-Bromofluorobenzene (S)	%	100	75-125		10/25/16 10:58	
Toluene-d8 (S)	%	100	75-125		10/25/16 10:58	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

LABORATORY CONTROL SAMPLE & LCSD: 2414714		2414715									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.2	19.5	96	98	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.5	20.8	107	104	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	21.5	21.6	107	108	67-131	0	30		
1,1,2-Trichloroethane	ug/L	20	21.5	21.3	107	106	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.2	18.5	96	93	75-125	4	30		
1,1-Dichloroethane	ug/L	20	21.7	21.1	109	106	74-125	3	30		
1,1-Dichloroethene	ug/L	20	21.6	20.4	108	102	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.6	21.1	108	105	74-125	2	30		
1,2,3-Trichlorobenzene	ug/L	20	20.6	21.2	103	106	63-131	3	30		
1,2,3-Trichloropropane	ug/L	20	20.6	21.1	103	106	73-125	2	30		
1,2,4-Trichlorobenzene	ug/L	20	21.0	21.1	105	105	66-126	0	30		
1,2,4-Trimethylbenzene	ug/L	20	20.7	20.8	103	104	74-129	1	30		
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	49.1	94	98	54-129	4	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.0	21.0	105	105	75-125	0	30		
1,2-Dichlorobenzene	ug/L	20	20.3	20.8	102	104	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.5	20.2	102	101	75-125	1	30		
1,2-Dichloroethene (Total)	ug/L	40	40.4	39.2	101	98	75-125	3	30		
1,2-Dichloropropane	ug/L	20	22.0	21.7	110	109	75-125	1	30		
1,3,5-Trimethylbenzene	ug/L	20	20.9	21.0	105	105	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	20.6	20.7	103	103	75-125	0	30		
1,3-Dichloropropane	ug/L	20	21.2	21.2	106	106	69-125	0	30		
1,4-Dichlorobenzene	ug/L	20	20.2	20.3	101	101	75-125	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	344	411	86	103	70-130	18	30		
2,2,4-Trimethylpentane	ug/L	20	21.3	20.3	106	101	67-138	5	30		
2,2-Dichloropropane	ug/L	20	20.4	19.8	102	99	69-125	3	30		
2-Butanone (MEK)	ug/L	100	115	114	115	114	48-145	1	30		
2-Chlorotoluene	ug/L	20	20.4	20.3	102	102	74-125	0	30		
2-Hexanone	ug/L	100	115	115	115	115	63-135	0	30		
4-Chlorotoluene	ug/L	20	20.5	20.5	102	103	73-125	0	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	116	116	116	116	53-138	0	30		
Acetone	ug/L	100	92.8	103	93	103	70-142	10	30		
Acrolein	ug/L	200	475	426	237	213	44-150	11	30	CH,L0	
Acrylonitrile	ug/L	200	233	227	116	114	68-125	2	30		
Benzene	ug/L	20	21.3	20.7	106	104	65-125	3	30		
Bromobenzene	ug/L	20	20.4	20.5	102	103	75-125	0	30		
Bromochloromethane	ug/L	20	21.4	20.9	107	104	75-125	2	30		
Bromodichloromethane	ug/L	20	19.7	20.2	98	101	73-125	3	30		
Bromoform	ug/L	20	15.5	16.0	77	80	69-125	3	30		
Bromomethane	ug/L	20	22.9	23.0	114	115	40-136	0	30		
Carbon disulfide	ug/L	20	22.2	21.3	111	107	36-150	4	30		
Carbon tetrachloride	ug/L	20	18.9	18.8	95	94	70-125	1	30		
Chlorobenzene	ug/L	20	20.7	20.4	103	102	75-125	1	30		
Chloroethane	ug/L	20	21.9	20.8	109	104	67-141	5	30		
Chloroform	ug/L	20	20.6	20.3	103	102	75-125	2	30		
Chloromethane	ug/L	20	20.4	20.0	102	100	50-150	2	30		
cis-1,2-Dichloroethene	ug/L	20	19.9	19.3	100	97	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	20	21.2	20.8	106	104	75-125	2	30		

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

LABORATORY CONTROL SAMPLE & LCSD: 2414714		2414715								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	18.4	18.4	92	92	75-125	0	30	
Dibromomethane	ug/L	20	21.1	21.0	105	105	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	19.8	19.2	99	96	59-135	3	30	
Dichlorofluoromethane	ug/L	20	20.6	19.8	103	99	74-130	4	30	
Diisopropyl ether	ug/L	20	21.9	21.7	110	109	71-125	1	30	
Ethyl-tert-butyl ether	ug/L	20	22.3	22.0	111	110	70-130	1	30	
Ethylbenzene	ug/L	20	21.2	21.0	106	105	75-125	1	30	
Hexachloro-1,3-butadiene	ug/L	20	21.6	21.4	108	107	72-126	1	30	
Isopropylbenzene (Cumene)	ug/L	20	21.3	21.0	106	105	71-136	1	30	
m&p-Xylene	ug/L	40	42.6	42.1	106	105	75-125	1	30	
Methyl-tert-butyl ether	ug/L	20	21.5	20.9	107	105	73-127	3	30	
Methylene Chloride	ug/L	20	20.5	19.8	102	99	68-128	3	30	
n-Butylbenzene	ug/L	20	21.3	21.4	106	107	70-126	1	30	
n-Propylbenzene	ug/L	20	21.9	22.0	109	110	67-131	1	30	
Naphthalene	ug/L	20	21.0	21.3	105	106	52-134	1	30	
o-Xylene	ug/L	20	20.5	20.4	103	102	75-125	1	30	
p-Isopropyltoluene	ug/L	20	21.5	21.4	108	107	74-125	1	30	
sec-Butylbenzene	ug/L	20	21.0	21.3	105	107	69-134	1	30	
Styrene	ug/L	20	20.9	20.8	104	104	75-125	0	30	
tert-Amylmethyl ether	ug/L	20	20.7	20.6	103	103	70-130	0	30	
tert-Butyl Alcohol	ug/L	200	166	206	83	103	66-128	22	30	
tert-Butylbenzene	ug/L	20	20.2	20.4	101	102	71-128	1	30	
Tetrachloroethene	ug/L	20	20.4	20.7	102	103	74-125	1	30	
Tetrahydrofuran	ug/L	200	185	198	92	99	64-142	7	30	
Toluene	ug/L	20	19.1	19.1	95	96	75-125	0	30	
trans-1,2-Dichloroethene	ug/L	20	20.4	19.9	102	99	73-125	3	30	
trans-1,3-Dichloropropene	ug/L	20	20.7	20.7	104	103	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	53.5	55.2	107	110	54-133	3	30	
Trichloroethene	ug/L	20	20.8	20.9	104	104	75-125	0	30	
Trichlorofluoromethane	ug/L	20	20.4	20.0	102	100	75-126	2	30	
Vinyl acetate	ug/L	20	20.4	19.7	102	98	67-126	3	30	
Vinyl chloride	ug/L	20	22.0	20.8	110	104	72-125	5	30	
Xylene (Total)	ug/L	60	63.1	62.5	105	104	75-125	1	30	
1,2-Dichloroethane-d4 (S)	%				104	103	75-125			
4-Bromofluorobenzene (S)	%				97	99	75-125			
Toluene-d8 (S)	%				98	100	75-125			

MATRIX SPIKE SAMPLE: 2414716		1277183002	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.1	95	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	22.1	111	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	21.2	106	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	20.3	101	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	22.1	110	54-150	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

MATRIX SPIKE SAMPLE: 2414716		1277183002	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	21.2	106	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	22.4	112	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.3	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	19.8	99	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.4	97	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20.4	102	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	19.8	99	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	46.6	93	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.0	100	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	19.2	96	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.3	97	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40.4	101	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	21.6	108	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20.3	101	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	19.7	98	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.2	101	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	19.2	96	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	388	97	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	25.2	126	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.0	105	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	103	103	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.6	98	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.5	98	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	111	111	60-147	
Acetone	ug/L	<0.64	100	90.6	91	59-150	
Acrolein	ug/L	<2.1	200	894	447	30-150	CH,M0
Acrylonitrile	ug/L	<0.49	200	214	107	41-148	
Benzene	ug/L	<0.042	20	20.9	105	61-138	
Bromobenzene	ug/L	<0.087	20	19.7	98	74-130	
Bromochloromethane	ug/L	<0.082	20	20.5	103	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.9	99	66-136	
Bromoform	ug/L	<0.11	20	15.4	77	71-125	
Bromomethane	ug/L	<0.20	20	24.8	124	30-150	
Carbon disulfide	ug/L	<0.20	20	23.1	115	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.4	102	68-140	
Chlorobenzene	ug/L	<0.066	20	19.9	100	75-132	
Chloroethane	ug/L	<0.12	20	22.5	112	55-150	
Chloroform	ug/L	<0.21	20	20.0	100	64-139	
Chloromethane	ug/L	0.17J	20	21.8	108	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.7	99	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	20.6	103	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.3	92	74-125	
Dibromomethane	ug/L	<0.14	20	20.2	101	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	24.4	122	53-150	
Dichlorofluoromethane	ug/L	0.13J	20	21.4	106	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.0	105	50-139	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

MATRIX SPIKE SAMPLE: 2414716

Parameter	Units	1277183002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.9	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.8	104	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	22.7	113	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	21.1	105	65-146	
m&p-Xylene	ug/L	<0.11	40	41.9	105	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	20.0	100	63-134	
Methylene Chloride	ug/L	<0.097	20	19.7	99	49-143	
n-Butylbenzene	ug/L	<0.16	20	21.5	107	67-134	
n-Propylbenzene	ug/L	<0.049	20	21.5	107	62-142	
Naphthalene	ug/L	<0.064	20	19.5	98	41-150	
o-Xylene	ug/L	<0.044	20	20.6	103	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	21.1	105	64-137	
sec-Butylbenzene	ug/L	<0.094	20	21.3	107	65-142	
Styrene	ug/L	<0.056	20	20.5	102	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.9	99	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	189	95	59-138	
tert-Butylbenzene	ug/L	<0.051	20	20.0	100	69-135	
Tetrachloroethene	ug/L	<0.13	20	21.1	106	62-142	
Tetrahydrofuran	ug/L	<1.5	200	177	88	55-150	
Toluene	ug/L	0.064J	20	19.1	95	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.7	104	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	51.4	103	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	23.9	120	63-150	
Vinyl acetate	ug/L	<0.12	20	20.5	103	30-150	
Vinyl chloride	ug/L	<0.098	20	23.5	118	58-150	
Xylene (Total)	ug/L	<0.15	60	62.4	104	70-140	
1,2-Dichloroethane-d4 (S)	%				105	75-125	
4-Bromofluorobenzene (S)	%				98	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2414717

Parameter	Units	1277183003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

SAMPLE DUPLICATE: 2414717

Parameter	Units	1277183003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	0.24J	0.25J		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR_Freeman

Pace Project No.: 10366684

SAMPLE DUPLICATE: 2414717

Parameter	Units	1277183003 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	110	107	2		
4-Bromofluorobenzene (S)	%	100	102	1		
Toluene-d8 (S)	%	99	100	0		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR_Freeman

Pace Project No.: 10366684

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 443076

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1M Analyte was non-detect when evaluated to the MDL.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: UPRR_Freeman

Pace Project No.: 10366684

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR_Freeman

Pace Project No.: 10366684

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10366684001	Freeman-Lang-101816	EPA 8260B	443076		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt Form - ESI

Document No.:
F-MN-L-210-rev.20

Document Revised: 04APR2016
Page 1 of 2

Issuing Authority:
Pace Minnesota Quality Office

Sample Condition
Upon Receipt - ESI
Tech Specs

Client Name:
CH2M Hill

Project #:
WO# : 10366684



10366684

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 8104 0944 8084

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 151401163 151401164 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 3.0 Cooler Temp Corrected (°C): 3.2 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: 1.02 Date and Initials of Person Examining Contents: KAC 10-19-16

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: (VOA) Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>11:45</u> Temp: <u>3.0</u>	Corrected Temp: <u>3.2</u>
Time: <u>12:05</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 10/19/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

October 27, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

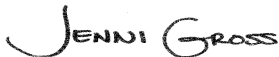
RE: Project: UPRR Freeman
Pace Project No.: 10367138

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Maggie Fitzgerald, CH2M
Mike Niemet, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR Freeman
Pace Project No.: 10367138

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
Alaska Certification UST-107
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR Freeman

Pace Project No.: 10367138

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10367138001	HS-Sink1-101916	Water	10/19/16 15:30	10/21/16 10:05
10367138002	HS-SinkD-101916	Water	10/19/16 15:00	10/21/16 10:05
10367138003	Elem-Sink2-101916	Water	10/19/16 15:55	10/21/16 10:05
10367138004	Elem-Sink1-101916	Water	10/19/16 16:00	10/21/16 10:05
10367138005	MS-Sink1-101916	Water	10/19/16 16:15	10/21/16 10:05
10367138006	MS-Sink2-101916	Water	10/19/16 16:20	10/21/16 10:05
10367138007	Trip Blank	Water	10/19/16 00:00	10/21/16 10:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UPRR Freeman

Pace Project No.: 10367138

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10367138001	HS-Sink1-101916	EPA 8260B	DJB	83	PASI-M
10367138002	HS-SinkD-101916	EPA 8260B	DJB	83	PASI-M
10367138003	Elem-Sink2-101916	EPA 8260B	DJB	83	PASI-M
10367138004	Elem-Sink1-101916	EPA 8260B	DJB	83	PASI-M
10367138005	MS-Sink1-101916	EPA 8260B	DJB	83	PASI-M
10367138006	MS-Sink2-101916	EPA 8260B	DJB	83	PASI-M
10367138007	Trip Blank	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR Freeman

Pace Project No.: 10367138

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10367138001	HS-Sink1-101916					
EPA 8260B	Bromodichloromethane	0.15J	ug/L	0.50	10/26/16 16:03	
EPA 8260B	Bromoform	2.3J	ug/L	4.0	10/26/16 16:03	
EPA 8260B	Carbon tetrachloride	0.19J	ug/L	1.0	10/26/16 16:03	
EPA 8260B	Dibromochloromethane	0.72	ug/L	0.50	10/26/16 16:03	
EPA 8260B	Trichlorofluoromethane	0.65	ug/L	0.50	10/26/16 16:03	
10367138002	HS-SinkD-101916					
EPA 8260B	Bromodichloromethane	0.14J	ug/L	0.50	10/26/16 16:25	
EPA 8260B	Bromoform	2.3J	ug/L	4.0	10/26/16 16:25	
EPA 8260B	Carbon tetrachloride	0.15J	ug/L	1.0	10/26/16 16:25	
EPA 8260B	Dibromochloromethane	0.74	ug/L	0.50	10/26/16 16:25	
EPA 8260B	Trichlorofluoromethane	0.65	ug/L	0.50	10/26/16 16:25	
10367138003	Elem-Sink2-101916					
EPA 8260B	Bromodichloromethane	0.28J	ug/L	0.50	10/26/16 16:48	
EPA 8260B	Bromoform	2.5J	ug/L	4.0	10/26/16 16:48	
EPA 8260B	Dibromochloromethane	1.0	ug/L	0.50	10/26/16 16:48	
EPA 8260B	Trichlorofluoromethane	0.32J	ug/L	0.50	10/26/16 16:48	
10367138004	Elem-Sink1-101916					
EPA 8260B	Bromodichloromethane	0.16J	ug/L	0.50	10/26/16 17:09	
EPA 8260B	Bromoform	2.4J	ug/L	4.0	10/26/16 17:09	
EPA 8260B	Dibromochloromethane	0.89	ug/L	0.50	10/26/16 17:09	
EPA 8260B	Trichlorofluoromethane	0.22J	ug/L	0.50	10/26/16 17:09	
10367138005	MS-Sink1-101916					
EPA 8260B	Bromodichloromethane	0.26J	ug/L	0.50	10/26/16 15:41	
EPA 8260B	Bromoform	2.0J	ug/L	4.0	10/26/16 15:41	
EPA 8260B	Carbon tetrachloride	0.11J	ug/L	1.0	10/26/16 15:41	
EPA 8260B	Dibromochloromethane	0.90	ug/L	0.50	10/26/16 15:41	
EPA 8260B	Trichlorofluoromethane	0.40J	ug/L	0.50	10/26/16 15:41	
10367138006	MS-Sink2-101916					
EPA 8260B	Bromodichloromethane	0.23J	ug/L	0.50	10/26/16 17:31	
EPA 8260B	Bromoform	2.2J	ug/L	4.0	10/26/16 17:31	
EPA 8260B	Carbon tetrachloride	0.16J	ug/L	1.0	10/26/16 17:31	
EPA 8260B	Dibromochloromethane	0.89	ug/L	0.50	10/26/16 17:31	
EPA 8260B	Trichlorofluoromethane	0.39J	ug/L	0.50	10/26/16 17:31	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman

Pace Project No.: 10367138

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: October 27, 2016

General Information:

7 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 443347

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2416785)
 - Acrolein
- MS (Lab ID: 2416786)
 - Acrolein
- MS-Sink1-101916 (Lab ID: 10367138005)
 - Acrolein
- MSD (Lab ID: 2416787)
 - Acrolein

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 443347

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2416785)
 - Acrolein
 - Vinyl acetate

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman

Pace Project No.: 10367138

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: October 27, 2016

QC Batch: 443347

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10367138005

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2416786)
 - Acrolein
- MSD (Lab ID: 2416787)
 - Acrolein

Additional Comments:

Analyte Comments:

QC Batch: 443347

1M: Analyte not detected when evaluated to the method detection limit.

- BLANK (Lab ID: 2416784)
 - Carbon tetrachloride
- Elem-Sink1-101916 (Lab ID: 10367138004)
 - Carbon tetrachloride
- Elem-Sink2-101916 (Lab ID: 10367138003)
 - Carbon tetrachloride
- Trip Blank (Lab ID: 10367138007)
 - Carbon tetrachloride

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: HS-Sink1-101916 Lab ID: 10367138001 Collected: 10/19/16 15:30 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 16:03	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 16:03	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 16:03	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 16:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 16:03	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 16:03	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 16:03	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 16:03	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 16:03	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 16:03	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 16:03	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 16:03	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 16:03	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 16:03	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 16:03	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 16:03	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 16:03	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 16:03	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 16:03	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 16:03	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 16:03	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 16:03	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 16:03	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 16:03	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 16:03	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 16:03	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 16:03	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 16:03	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 16:03	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 16:03	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 16:03	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 16:03	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 16:03	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 16:03	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 16:03	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 16:03	74-97-5	
Bromodichloromethane	0.15J	ug/L	0.50	0.068	1		10/26/16 16:03	75-27-4	
Bromoform	2.3J	ug/L	4.0	0.11	1		10/26/16 16:03	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 16:03	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 16:03	75-15-0	
Carbon tetrachloride	0.19J	ug/L	1.0	0.079	1		10/26/16 16:03	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 16:03	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 16:03	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 16:03	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 16:03	74-87-3	
Dibromochloromethane	0.72	ug/L	0.50	0.048	1		10/26/16 16:03	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: HS-Sink1-101916 **Lab ID: 10367138001** Collected: 10/19/16 15:30 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 16:03	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 16:03	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 16:03	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 16:03	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 16:03	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 16:03	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 16:03	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 16:03	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 16:03	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 16:03	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 16:03	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 16:03	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 16:03	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 16:03	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 16:03	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 16:03	79-01-6	
Trichlorofluoromethane	0.65	ug/L	0.50	0.055	1		10/26/16 16:03	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 16:03	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 16:03	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 16:03	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 16:03	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 16:03	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 16:03	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 16:03	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 16:03	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 16:03	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 16:03	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 16:03	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 16:03	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 16:03	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 16:03	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 16:03	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 16:03	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 16:03	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		10/26/16 16:03	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		10/26/16 16:03	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		10/26/16 16:03	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: **HS-SinkD-101916** Lab ID: **10367138002** Collected: 10/19/16 15:00 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 16:25	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 16:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 16:25	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 16:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 16:25	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 16:25	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 16:25	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 16:25	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 16:25	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 16:25	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 16:25	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 16:25	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 16:25	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 16:25	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 16:25	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 16:25	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 16:25	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 16:25	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 16:25	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 16:25	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 16:25	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 16:25	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 16:25	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 16:25	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 16:25	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 16:25	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 16:25	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 16:25	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 16:25	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 16:25	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 16:25	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 16:25	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 16:25	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 16:25	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 16:25	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 16:25	74-97-5	
Bromodichloromethane	0.14J	ug/L	0.50	0.068	1		10/26/16 16:25	75-27-4	
Bromoform	2.3J	ug/L	4.0	0.11	1		10/26/16 16:25	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 16:25	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 16:25	75-15-0	
Carbon tetrachloride	0.15J	ug/L	1.0	0.079	1		10/26/16 16:25	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 16:25	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 16:25	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 16:25	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 16:25	74-87-3	
Dibromochloromethane	0.74	ug/L	0.50	0.048	1		10/26/16 16:25	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: HS-SinkD-101916 **Lab ID: 10367138002** Collected: 10/19/16 15:00 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 16:25	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 16:25	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 16:25	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 16:25	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 16:25	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 16:25	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 16:25	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 16:25	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 16:25	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 16:25	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 16:25	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 16:25	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 16:25	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 16:25	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 16:25	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 16:25	79-01-6	
Trichlorofluoromethane	0.65	ug/L	0.50	0.055	1		10/26/16 16:25	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 16:25	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 16:25	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 16:25	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 16:25	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 16:25	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 16:25	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 16:25	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 16:25	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 16:25	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 16:25	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 16:25	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 16:25	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 16:25	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 16:25	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 16:25	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 16:25	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 16:25	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%	75-125		1		10/26/16 16:25	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		10/26/16 16:25	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		10/26/16 16:25	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: Elem-Sink2-101916 Lab ID: 10367138003 Collected: 10/19/16 15:55 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 16:48	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 16:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 16:48	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 16:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 16:48	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 16:48	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 16:48	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 16:48	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 16:48	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 16:48	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 16:48	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 16:48	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 16:48	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 16:48	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 16:48	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 16:48	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 16:48	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 16:48	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 16:48	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 16:48	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 16:48	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 16:48	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 16:48	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 16:48	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 16:48	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 16:48	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 16:48	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 16:48	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 16:48	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 16:48	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 16:48	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 16:48	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 16:48	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 16:48	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 16:48	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 16:48	74-97-5	
Bromodichloromethane	0.28J	ug/L	0.50	0.068	1		10/26/16 16:48	75-27-4	
Bromoform	2.5J	ug/L	4.0	0.11	1		10/26/16 16:48	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 16:48	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 16:48	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		10/26/16 16:48	56-23-5	1M
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 16:48	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 16:48	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 16:48	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 16:48	74-87-3	
Dibromochloromethane	1.0	ug/L	0.50	0.048	1		10/26/16 16:48	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: Elem-Sink2-101916 Lab ID: 10367138003 Collected: 10/19/16 15:55 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 16:48	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 16:48	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 16:48	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 16:48	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 16:48	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 16:48	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 16:48	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 16:48	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 16:48	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 16:48	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 16:48	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 16:48	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 16:48	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 16:48	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 16:48	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 16:48	79-01-6	
Trichlorofluoromethane	0.32J	ug/L	0.50	0.055	1		10/26/16 16:48	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 16:48	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 16:48	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 16:48	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 16:48	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 16:48	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 16:48	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 16:48	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 16:48	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 16:48	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 16:48	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 16:48	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 16:48	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 16:48	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 16:48	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 16:48	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 16:48	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 16:48	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		10/26/16 16:48	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/26/16 16:48	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		10/26/16 16:48	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: Elem-Sink1-101916 Lab ID: 10367138004 Collected: 10/19/16 16:00 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 17:09	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 17:09	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 17:09	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 17:09	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 17:09	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 17:09	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 17:09	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 17:09	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 17:09	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 17:09	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 17:09	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 17:09	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 17:09	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 17:09	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 17:09	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 17:09	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 17:09	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 17:09	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 17:09	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 17:09	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 17:09	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 17:09	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 17:09	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 17:09	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 17:09	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 17:09	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 17:09	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 17:09	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 17:09	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 17:09	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 17:09	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 17:09	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 17:09	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 17:09	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 17:09	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 17:09	74-97-5	
Bromodichloromethane	0.16J	ug/L	0.50	0.068	1		10/26/16 17:09	75-27-4	
Bromoform	2.4J	ug/L	4.0	0.11	1		10/26/16 17:09	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 17:09	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 17:09	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		10/26/16 17:09	56-23-5	1M
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 17:09	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 17:09	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 17:09	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 17:09	74-87-3	
Dibromochloromethane	0.89	ug/L	0.50	0.048	1		10/26/16 17:09	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: Elem-Sink1-101916 Lab ID: 10367138004 Collected: 10/19/16 16:00 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 17:09	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 17:09	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 17:09	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 17:09	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 17:09	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 17:09	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 17:09	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 17:09	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 17:09	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 17:09	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 17:09	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 17:09	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 17:09	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 17:09	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 17:09	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 17:09	79-01-6	
Trichlorofluoromethane	0.22J	ug/L	0.50	0.055	1		10/26/16 17:09	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 17:09	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 17:09	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 17:09	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 17:09	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 17:09	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 17:09	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 17:09	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 17:09	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 17:09	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 17:09	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 17:09	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 17:09	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 17:09	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 17:09	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 17:09	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 17:09	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 17:09	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		10/26/16 17:09	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		10/26/16 17:09	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		10/26/16 17:09	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: **MS-Sink1-101916** Lab ID: **10367138005** Collected: 10/19/16 16:15 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 15:41	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 15:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 15:41	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 15:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 15:41	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 15:41	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 15:41	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 15:41	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 15:41	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 15:41	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 15:41	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 15:41	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 15:41	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 15:41	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 15:41	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 15:41	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 15:41	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 15:41	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 15:41	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 15:41	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 15:41	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 15:41	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 15:41	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 15:41	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 15:41	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 15:41	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 15:41	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 15:41	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 15:41	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 15:41	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 15:41	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 15:41	107-02-8	CH,L3, MO
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 15:41	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 15:41	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 15:41	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 15:41	74-97-5	
Bromodichloromethane	0.26J	ug/L	0.50	0.068	1		10/26/16 15:41	75-27-4	
Bromoform	2.0J	ug/L	4.0	0.11	1		10/26/16 15:41	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 15:41	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 15:41	75-15-0	
Carbon tetrachloride	0.11J	ug/L	1.0	0.079	1		10/26/16 15:41	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 15:41	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 15:41	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 15:41	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 15:41	74-87-3	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: **MS-Sink1-101916** Lab ID: **10367138005** Collected: 10/19/16 16:15 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromochloromethane	0.90	ug/L	0.50	0.048	1		10/26/16 15:41	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 15:41	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 15:41	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 15:41	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 15:41	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 15:41	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 15:41	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 15:41	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 15:41	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 15:41	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 15:41	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 15:41	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 15:41	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 15:41	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 15:41	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 15:41	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 15:41	79-01-6	
Trichlorofluoromethane	0.40J	ug/L	0.50	0.055	1		10/26/16 15:41	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 15:41	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 15:41	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 15:41	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 15:41	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 15:41	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 15:41	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 15:41	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 15:41	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 15:41	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 15:41	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 15:41	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 15:41	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 15:41	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 15:41	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 15:41	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 15:41	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 15:41	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		10/26/16 15:41	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		10/26/16 15:41	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		10/26/16 15:41	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: **MS-Sink2-101916** Lab ID: **10367138006** Collected: 10/19/16 16:20 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 17:31	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 17:31	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 17:31	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 17:31	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 17:31	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 17:31	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 17:31	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 17:31	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 17:31	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 17:31	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 17:31	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 17:31	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 17:31	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 17:31	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 17:31	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 17:31	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 17:31	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 17:31	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 17:31	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 17:31	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 17:31	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 17:31	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 17:31	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 17:31	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 17:31	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 17:31	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 17:31	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 17:31	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 17:31	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 17:31	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 17:31	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 17:31	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 17:31	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 17:31	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 17:31	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 17:31	74-97-5	
Bromodichloromethane	0.23J	ug/L	0.50	0.068	1		10/26/16 17:31	75-27-4	
Bromoform	2.2J	ug/L	4.0	0.11	1		10/26/16 17:31	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 17:31	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 17:31	75-15-0	
Carbon tetrachloride	0.16J	ug/L	1.0	0.079	1		10/26/16 17:31	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 17:31	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 17:31	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 17:31	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 17:31	74-87-3	
Dibromochloromethane	0.89	ug/L	0.50	0.048	1		10/26/16 17:31	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: MS-Sink2-101916 Lab ID: 10367138006 Collected: 10/19/16 16:20 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 17:31	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 17:31	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 17:31	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 17:31	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 17:31	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 17:31	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 17:31	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 17:31	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 17:31	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 17:31	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 17:31	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 17:31	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 17:31	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 17:31	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 17:31	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 17:31	79-01-6	
Trichlorofluoromethane	0.39J	ug/L	0.50	0.055	1		10/26/16 17:31	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 17:31	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 17:31	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 17:31	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 17:31	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 17:31	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 17:31	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 17:31	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 17:31	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 17:31	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 17:31	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 17:31	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 17:31	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 17:31	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 17:31	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 17:31	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 17:31	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 17:31	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		10/26/16 17:31	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/26/16 17:31	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		10/26/16 17:31	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: Trip Blank Lab ID: 10367138007 Collected: 10/19/16 00:00 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 13:30	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		10/26/16 13:30	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 13:30	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		10/26/16 13:30	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		10/26/16 13:30	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		10/26/16 13:30	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		10/26/16 13:30	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		10/26/16 13:30	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		10/26/16 13:30	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		10/26/16 13:30	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		10/26/16 13:30	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		10/26/16 13:30	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		10/26/16 13:30	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		10/26/16 13:30	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		10/26/16 13:30	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		10/26/16 13:30	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		10/26/16 13:30	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		10/26/16 13:30	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		10/26/16 13:30	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		10/26/16 13:30	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		10/26/16 13:30	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		10/26/16 13:30	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		10/26/16 13:30	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		10/26/16 13:30	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		10/26/16 13:30	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		10/26/16 13:30	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		10/26/16 13:30	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		10/26/16 13:30	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		10/26/16 13:30	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		10/26/16 13:30	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		10/26/16 13:30	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		10/26/16 13:30	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		10/26/16 13:30	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		10/26/16 13:30	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		10/26/16 13:30	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		10/26/16 13:30	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		10/26/16 13:30	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		10/26/16 13:30	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		10/26/16 13:30	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		10/26/16 13:30	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		10/26/16 13:30	56-23-5	1M
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		10/26/16 13:30	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		10/26/16 13:30	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		10/26/16 13:30	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		10/26/16 13:30	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		10/26/16 13:30	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman

Pace Project No.: 10367138

Sample: Trip Blank **Lab ID: 10367138007** Collected: 10/19/16 00:00 Received: 10/21/16 10:05 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		10/26/16 13:30	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		10/26/16 13:30	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		10/26/16 13:30	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		10/26/16 13:30	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		10/26/16 13:30	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		10/26/16 13:30	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		10/26/16 13:30	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		10/26/16 13:30	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		10/26/16 13:30	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		10/26/16 13:30	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		10/26/16 13:30	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		10/26/16 13:30	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		10/26/16 13:30	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		10/26/16 13:30	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		10/26/16 13:30	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		10/26/16 13:30	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		10/26/16 13:30	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		10/26/16 13:30	108-05-4	L3
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		10/26/16 13:30	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		10/26/16 13:30	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		10/26/16 13:30	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		10/26/16 13:30	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		10/26/16 13:30	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		10/26/16 13:30	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		10/26/16 13:30	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		10/26/16 13:30	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		10/26/16 13:30	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		10/26/16 13:30	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		10/26/16 13:30	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		10/26/16 13:30	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		10/26/16 13:30	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		10/26/16 13:30	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		10/26/16 13:30	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		10/26/16 13:30	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	75-125		1		10/26/16 13:30	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		10/26/16 13:30	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		10/26/16 13:30	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman
Pace Project No.: 10367138

QC Batch: 443347 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10367138001, 10367138002, 10367138003, 10367138004, 10367138005, 10367138006, 10367138007

METHOD BLANK: 2416784 Matrix: Water
Associated Lab Samples: 10367138001, 10367138002, 10367138003, 10367138004, 10367138005, 10367138006, 10367138007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	10/26/16 13:08	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	10/26/16 13:08	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	10/26/16 13:08	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	10/26/16 13:08	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	10/26/16 13:08	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	10/26/16 13:08	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	10/26/16 13:08	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	10/26/16 13:08	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	10/26/16 13:08	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	10/26/16 13:08	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	10/26/16 13:08	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	10/26/16 13:08	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	10/26/16 13:08	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	10/26/16 13:08	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	10/26/16 13:08	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	10/26/16 13:08	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	10/26/16 13:08	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	10/26/16 13:08	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	10/26/16 13:08	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	10/26/16 13:08	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	10/26/16 13:08	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	10/26/16 13:08	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	10/26/16 13:08	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	10/26/16 13:08	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	10/26/16 13:08	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	10/26/16 13:08	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	10/26/16 13:08	
2-Hexanone	ug/L	<0.19	5.0	0.19	10/26/16 13:08	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	10/26/16 13:08	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	10/26/16 13:08	
Acetone	ug/L	<0.64	20.0	0.64	10/26/16 13:08	
Acrolein	ug/L	<2.1	10.0	2.1	10/26/16 13:08	
Acrylonitrile	ug/L	<0.49	10.0	0.49	10/26/16 13:08	
Benzene	ug/L	<0.042	0.50	0.042	10/26/16 13:08	
Bromobenzene	ug/L	<0.087	0.50	0.087	10/26/16 13:08	
Bromochloromethane	ug/L	<0.082	1.0	0.082	10/26/16 13:08	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	10/26/16 13:08	
Bromoform	ug/L	<0.11	4.0	0.11	10/26/16 13:08	
Bromomethane	ug/L	<0.20	4.0	0.20	10/26/16 13:08	
Carbon disulfide	ug/L	<0.20	1.0	0.20	10/26/16 13:08	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	10/26/16 13:08	1M

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10367138

METHOD BLANK: 2416784

Matrix: Water

Associated Lab Samples: 10367138001, 10367138002, 10367138003, 10367138004, 10367138005, 10367138006, 10367138007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	10/26/16 13:08	
Chloroethane	ug/L	<0.12	1.0	0.12	10/26/16 13:08	
Chloroform	ug/L	<0.21	1.0	0.21	10/26/16 13:08	
Chloromethane	ug/L	<0.080	4.0	0.080	10/26/16 13:08	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	10/26/16 13:08	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	10/26/16 13:08	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	10/26/16 13:08	
Dibromomethane	ug/L	<0.14	1.0	0.14	10/26/16 13:08	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	10/26/16 13:08	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	10/26/16 13:08	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	10/26/16 13:08	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	10/26/16 13:08	
Ethylbenzene	ug/L	<0.075	0.50	0.075	10/26/16 13:08	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	10/26/16 13:08	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	10/26/16 13:08	
m&p-Xylene	ug/L	<0.11	1.0	0.11	10/26/16 13:08	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	10/26/16 13:08	
Methylene Chloride	ug/L	<0.097	4.0	0.097	10/26/16 13:08	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	10/26/16 13:08	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	10/26/16 13:08	
Naphthalene	ug/L	<0.064	1.0	0.064	10/26/16 13:08	
o-Xylene	ug/L	<0.044	0.50	0.044	10/26/16 13:08	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	10/26/16 13:08	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	10/26/16 13:08	
Styrene	ug/L	<0.056	0.50	0.056	10/26/16 13:08	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	10/26/16 13:08	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	10/26/16 13:08	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	10/26/16 13:08	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	10/26/16 13:08	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	10/26/16 13:08	
Toluene	ug/L	<0.059	0.50	0.059	10/26/16 13:08	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	10/26/16 13:08	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	10/26/16 13:08	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	10/26/16 13:08	
Trichloroethene	ug/L	<0.044	0.40	0.044	10/26/16 13:08	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	10/26/16 13:08	
Vinyl acetate	ug/L	<0.12	10.0	0.12	10/26/16 13:08	
Vinyl chloride	ug/L	<0.098	0.20	0.098	10/26/16 13:08	
Xylene (Total)	ug/L	<0.15	1.5	0.15	10/26/16 13:08	
1,2-Dichloroethane-d4 (S)	%	109	75-125		10/26/16 13:08	
4-Bromofluorobenzene (S)	%	98	75-125		10/26/16 13:08	
Toluene-d8 (S)	%	100	75-125		10/26/16 13:08	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10367138

LABORATORY CONTROL SAMPLE: 2416785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.1	96	75-125	
1,1,1-Trichloroethane	ug/L	20	20.7	103	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	24.7	124	67-131	
1,1,2-Trichloroethane	ug/L	20	21.3	106	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.2	96	75-125	
1,1-Dichloroethane	ug/L	20	21.9	110	74-125	
1,1-Dichloroethene	ug/L	20	21.3	107	74-125	
1,1-Dichloropropene	ug/L	20	21.1	105	74-125	
1,2,3-Trichlorobenzene	ug/L	20	20.6	103	63-131	
1,2,3-Trichloropropane	ug/L	20	21.8	109	73-125	
1,2,4-Trichlorobenzene	ug/L	20	20.9	104	66-126	
1,2,4-Trimethylbenzene	ug/L	20	20.8	104	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	49.5	99	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.9	105	75-125	
1,2-Dichlorobenzene	ug/L	20	20.8	104	75-125	
1,2-Dichloroethane	ug/L	20	20.8	104	75-125	
1,2-Dichloroethene (Total)	ug/L	40	40.3	101	75-125	
1,2-Dichloropropane	ug/L	20	22.4	112	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.9	104	73-127	
1,3-Dichlorobenzene	ug/L	20	20.5	102	75-125	
1,3-Dichloropropane	ug/L	20	21.4	107	69-125	
1,4-Dichlorobenzene	ug/L	20	20.4	102	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	392	98	70-130	
2,2,4-Trimethylpentane	ug/L	20	21.4	107	67-138	
2,2-Dichloropropane	ug/L	20	19.6	98	69-125	
2-Butanone (MEK)	ug/L	100	121	121	48-145	
2-Chlorotoluene	ug/L	20	20.7	104	74-125	
2-Hexanone	ug/L	100	121	121	63-135	
4-Chlorotoluene	ug/L	20	20.7	104	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	121	121	53-138	
Acetone	ug/L	100	83.2	83	70-142	
Acrolein	ug/L	200	549	275	44-150	CH,L0
Acrylonitrile	ug/L	200	243	122	68-125	
Benzene	ug/L	20	21.1	105	65-125	
Bromobenzene	ug/L	20	20.9	104	75-125	
Bromochloromethane	ug/L	20	21.4	107	75-125	
Bromodichloromethane	ug/L	20	20.4	102	73-125	
Bromoform	ug/L	20	15.0	75	69-125	
Bromomethane	ug/L	20	25.3	127	40-136	
Carbon disulfide	ug/L	20	21.8	109	36-150	
Carbon tetrachloride	ug/L	20	18.8	94	70-125	
Chlorobenzene	ug/L	20	20.5	102	75-125	
Chloroethane	ug/L	20	23.8	119	67-141	
Chloroform	ug/L	20	20.7	103	75-125	
Chloromethane	ug/L	20	23.4	117	50-150	
cis-1,2-Dichloroethene	ug/L	20	19.9	100	75-125	
cis-1,3-Dichloropropene	ug/L	20	21.0	105	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10367138

LABORATORY CONTROL SAMPLE: 2416785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	18.0	90	75-125	
Dibromomethane	ug/L	20	21.0	105	75-129	
Dichlorodifluoromethane	ug/L	20	22.0	110	59-135	
Dichlorofluoromethane	ug/L	20	21.0	105	74-130	
Diisopropyl ether	ug/L	20	23.0	115	71-125	
Ethyl-tert-butyl ether	ug/L	20	22.1	111	70-130	
Ethylbenzene	ug/L	20	20.9	104	75-125	
Hexachloro-1,3-butadiene	ug/L	20	20.7	103	72-126	
Isopropylbenzene (Cumene)	ug/L	20	21.0	105	71-136	
m&p-Xylene	ug/L	40	42.1	105	75-125	
Methyl-tert-butyl ether	ug/L	20	21.2	106	73-127	
Methylene Chloride	ug/L	20	20.7	103	68-128	
n-Butylbenzene	ug/L	20	21.8	109	70-126	
n-Propylbenzene	ug/L	20	22.0	110	67-131	
Naphthalene	ug/L	20	21.2	106	52-134	
o-Xylene	ug/L	20	20.4	102	75-125	
p-Isopropyltoluene	ug/L	20	21.4	107	74-125	
sec-Butylbenzene	ug/L	20	21.3	107	69-134	
Styrene	ug/L	20	20.9	104	75-125	
tert-Amylmethyl ether	ug/L	20	20.6	103	70-130	
tert-Butyl Alcohol	ug/L	200	200	100	66-128	
tert-Butylbenzene	ug/L	20	20.3	102	71-128	
Tetrachloroethene	ug/L	20	20.1	101	74-125	
Tetrahydrofuran	ug/L	200	154	77	64-142	
Toluene	ug/L	20	18.7	94	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.3	102	73-125	
trans-1,3-Dichloropropene	ug/L	20	20.9	105	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	53.2	106	54-133	
Trichloroethene	ug/L	20	19.9	100	75-125	
Trichlorofluoromethane	ug/L	20	21.3	106	75-126	
Vinyl acetate	ug/L	20	27.1	135	67-126 L0	
Vinyl chloride	ug/L	20	23.8	119	72-125	
Xylene (Total)	ug/L	60	62.5	104	75-125	
1,2-Dichloroethane-d4 (S)	%			106	75-125	
4-Bromofluorobenzene (S)	%			100	75-125	
Toluene-d8 (S)	%			99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2416786 2416787

Parameter	Units	2416786		2416787		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.9	19.7	94	99	75-127	4	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	21.6	103	108	66-142	5	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	22.4	23.2	112	116	70-131	3	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20.2	20.7	101	104	75-128	2	30

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10367138

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2416786		2416787								
Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		10367138005 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	22.3	23.5	111	118	54-150	6	30	
1,1-Dichloroethane	ug/L	<0.055	20	20	21.5	23.0	108	115	58-147	7	30	
1,1-Dichloroethene	ug/L	<0.069	20	20	22.0	23.4	110	117	49-150	6	30	
1,1-Dichloropropene	ug/L	<0.082	20	20	21.4	22.7	107	114	58-147	6	30	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	19.8	20.6	99	103	57-139	4	30	
1,2,3-Trichloropropane	ug/L	<0.19	20	20	20.5	21.2	103	106	71-127	3	30	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	20.2	20.7	101	104	55-136	2	30	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	20.5	20.9	103	104	67-138	2	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	45.2	46.9	90	94	63-136	4	30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	19.9	20.6	99	103	74-125	3	30	
1,2-Dichlorobenzene	ug/L	<0.078	20	20	19.7	20.6	99	103	75-125	4	30	
1,2-Dichloroethane	ug/L	<0.072	20	20	19.8	20.8	99	104	63-133	5	30	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.8	41.8	100	104	55-146	5	30	
1,2-Dichloropropane	ug/L	<0.066	20	20	21.4	23.2	107	116	63-138	8	30	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	20.8	21.2	104	106	69-136	2	30	
1,3-Dichlorobenzene	ug/L	<0.085	20	20	20.1	20.9	100	104	75-125	4	30	
1,3-Dichloropropane	ug/L	<0.059	20	20	20.2	20.7	101	104	65-135	3	30	
1,4-Dichlorobenzene	ug/L	<0.081	20	20	19.8	20.3	99	101	70-126	2	30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	381	425	95	106	54-145	11	30	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	25.1	25.7	126	128	30-150	2	30	
2,2-Dichloropropane	ug/L	<0.096	20	20	19.5	20.4	97	102	39-148	5	30	
2-Butanone (MEK)	ug/L	<1.1	100	100	111	114	111	114	50-144	2	30	
2-Chlorotoluene	ug/L	<0.084	20	20	20.1	20.7	100	103	71-135	3	30	
2-Hexanone	ug/L	<0.19	100	100	112	114	112	114	43-150	1	30	
4-Chlorotoluene	ug/L	<0.048	20	20	20.2	20.8	101	104	71-131	3	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	113	116	113	116	60-147	2	30	
Acetone	ug/L	<0.64	100	100	79.5	84.9	80	85	59-150	7	30	
Acrolein	ug/L	<2.1	200	200	788	805	394	403	30-150	2	30	CH,M0
Acrylonitrile	ug/L	<0.49	200	200	225	232	112	116	41-148	3	30	
Benzene	ug/L	<0.042	20	20	20.5	21.8	103	109	61-138	6	30	
Bromobenzene	ug/L	<0.087	20	20	19.7	21.0	99	105	74-130	6	30	
Bromochloromethane	ug/L	<0.082	20	20	20.4	20.8	102	104	65-137	2	30	
Bromodichloromethane	ug/L	0.26J	20	20	20.0	21.3	99	105	66-136	6	30	
Bromoform	ug/L	2.0J	20	20	17.0	18.5	75	82	71-125	8	30	
Bromomethane	ug/L	<0.20	20	20	27.0	28.5	135	143	30-150	5	30	
Carbon disulfide	ug/L	<0.20	20	20	22.4	23.8	112	119	30-150	6	30	
Carbon tetrachloride	ug/L	0.11J	20	20	19.8	21.2	98	106	68-140	7	30	
Chlorobenzene	ug/L	<0.066	20	20	19.7	21.0	99	105	75-132	6	30	
Chloroethane	ug/L	<0.12	20	20	24.1	24.9	120	124	55-150	3	30	
Chloroform	ug/L	<0.21	20	20	20.4	21.5	101	107	64-139	5	30	
Chloromethane	ug/L	<0.080	20	20	23.8	24.2	119	121	73-150	2	30	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.5	20.4	98	102	62-138	4	30	
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	20.1	21.1	101	105	70-125	5	30	
Dibromochloromethane	ug/L	0.90	20	20	18.4	19.7	88	94	74-125	7	30	

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QUALITY CONTROL DATA

Project: UPRR Freeman

Pace Project No.: 10367138

Parameter	Units	2416786		2416787		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10367138005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	<0.14	20	20	19.7	21.1	99	105	66-138	7	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	26.3	27.4	131	137	53-150	4	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.7	22.7	109	114	58-150	5	30		
Diisopropyl ether	ug/L	<0.050	20	20	22.3	23.0	111	115	50-139	3	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	21.2	22.1	106	111	30-140	4	30		
Ethylbenzene	ug/L	<0.075	20	20	20.9	21.9	104	109	66-141	5	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	22.4	23.2	112	116	63-139	4	30		
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	21.3	21.7	106	108	65-146	2	30		
m&p-Xylene	ug/L	<0.11	40	40	41.4	43.0	103	108	72-142	4	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	20.2	20.8	101	104	63-134	3	30		
Methylene Chloride	ug/L	<0.097	20	20	19.6	20.6	98	103	49-143	5	30		
n-Butylbenzene	ug/L	<0.16	20	20	22.2	22.2	111	111	67-134	0	30		
n-Propylbenzene	ug/L	<0.049	20	20	22.3	22.4	112	112	62-142	0	30		
Naphthalene	ug/L	<0.064	20	20	19.8	20.3	99	102	41-150	2	30		
o-Xylene	ug/L	<0.044	20	20	20.3	20.6	102	103	66-138	1	30		
p-Isopropyltoluene	ug/L	<0.064	20	20	21.7	22.1	109	111	64-137	2	30		
sec-Butylbenzene	ug/L	<0.094	20	20	22.0	22.3	110	111	65-142	1	30		
Styrene	ug/L	<0.056	20	20	20.2	21.0	101	105	61-142	4	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.6	20.5	98	102	65-125	4	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	189	199	94	100	59-138	5	30		
tert-Butylbenzene	ug/L	<0.051	20	20	20.4	21.0	102	105	69-135	3	30		
Tetrachloroethene	ug/L	<0.13	20	20	20.1	21.0	101	105	62-142	4	30		
Tetrahydrofuran	ug/L	<1.5	200	200	144	154	72	77	55-150	6	30		
Toluene	ug/L	<0.059	20	20	18.4	19.4	92	97	66-132	6	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	20.3	21.4	102	107	48-150	5	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	20.0	20.5	100	103	65-130	3	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	49.0	51.3	98	103	31-150	5	30		
Trichloroethene	ug/L	<0.044	20	20	19.7	21.0	99	105	64-142	6	30		
Trichlorofluoromethane	ug/L	0.40J	20	20	24.3	25.7	120	127	63-150	5	30		
Vinyl acetate	ug/L	<0.12	20	20	24.7	25.8	123	129	30-150	4	30		
Vinyl chloride	ug/L	<0.098	20	20	25.7	27.1	128	135	58-150	5	30		
Xylene (Total)	ug/L	<0.15	60	60	61.7	63.7	103	106	70-140	3	30		
1,2-Dichloroethane-d4 (S)	%						106	108	75-125				
4-Bromofluorobenzene (S)	%						100	98	75-125				
Toluene-d8 (S)	%						100	98	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR Freeman

Pace Project No.: 10367138

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1M Analyte not detected when evaluated to the method detection limit.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: UPRR Freeman

Pace Project No.: 10367138

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR Freeman

Pace Project No.: 10367138

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10367138001	HS-Sink1-101916	EPA 8260B	443347		
10367138002	HS-SinkD-101916	EPA 8260B	443347		
10367138003	Elem-Sink2-101916	EPA 8260B	443347		
10367138004	Elem-Sink1-101916	EPA 8260B	443347		
10367138005	MS-Sink1-101916	EPA 8260B	443347		
10367138006	MS-Sink2-101916	EPA 8260B	443347		
10367138007	Trip Blank	EPA 8260B	443347		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10367138

Page: _____ of _____
1858568

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: CH2M		Report To: Mark Ochsner		Attention:	
Address: 999 W. Riverside, #500 Spokane, WA 99201		Copy To: Steve Demus		Company Name: UPRR	
Email To:		Purchase Order No.:		Address:	
Phone:		Project Name: UPRR Freeman		Pace Quote Reference:	
Requested Due Date/TAT: 5-day		Project Number:		Pace Project Manager:	
Fax:				Pace Profile #:	
				REGULATORY AGENCY	
				<input type="checkbox"/> NPDES <input checked="" type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
				<input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
				Site Location	
				STATE: _____	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↓	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol					Other
					DATE	TIME	DATE	TIME														
1	MS-Sink 1-101916		WTG		10-19-16	15:30		3											001			
2	MS-Sink 1-101916					15:00		2											002			
3	Elem-Sink 2-101916					15:55		3											003			
4	Elem-Sink 1-101916					16:00		3											004			
5	MS-Sink 1-101916					16:15		5											005			
6	MS-Sink 2-101916					16:20		3											006			
7	Trip Blank							2											007			
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
MS/MSD for sample MS-Sink 1-101916	JA/CH2M	10/20/16	15:00	VM/Pace	10/20/16	1005	3.2	X	X	Y

Page 31 of 32

ORIGINAL

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Steve Demus					
SIGNATURE of SAMPLER: <i>JA</i>					
DATE Signed (MM/DD/YY): 10-20-16					

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Document Name:
Sample Condition Upon Receipt Form - ESI

Document No.:
F-MN-L-210-rev.20

Document Revised: 04APR2016
Page 1 of 2

Issuing Authority:
Pace Minnesota Quality Office

Sample Condition
Upon Receipt - ESI
Tech Specs

Client Name:
CH2M

Project #:

WO# : 10367138

Optional: Proj. Due Date: Proj. Name:

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other:

Tracking Number: **8104 0944 8062**

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No

Thermometer 151401163 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Used: 151401164

Cooler Temp Read (°C): **3.2** Cooler Temp Corrected (°C): **2.9** Biological Tissue Frozen? Yes No NA

Temp should be above freezing to 6°C Correction Factor: **-0.3** Date and Initials of Person Examining Contents: **BC 10/21/16**

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		12.
-Includes Date/Time/ID/Analysis Matrix:	WT		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: VOA Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: Lot # of added preservative:
Per method, VOA pH is checked after analysis			
Headspace in VOA Vials (>6mm)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		14. Elmsink-1-101916 all 3 vials 26mm
3 Trip Blanks Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		15. MS-Sink2-101916 2 > 6mm
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION Person Contacted: _____ Date/Time: _____

Field Data Required? Yes No

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: 16:20 Temp: 3.2	Corrected Temp: 3.4
Time: put in cooler	
Time: 16:35 Temp: 3.2	Corrected Temp: 3.4

Project Manager Review: JENNI GROSS Date: **10/21/16**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 14, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

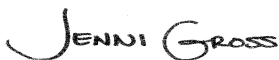
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on November 30, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):
E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Commonwealth of Virginia (TNI): 480246

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Green Bay Certification IDs

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10371582001	Randall-GW-112916	Water	11/29/16 11:40	11/30/16 09:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10371582001	Randall-GW-112916	RSK 175	DR1	3	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	SMS2	1	PASI-N
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	KEO	3	PASI-M
		SM 3500-Cr D Modified	KEO	1	PASI-M
		SM 5310C	CRE	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10371582001	Randall-GW-112916					
RSK 175	Methane	1.4J	ug/L	10.0	12/02/16 16:28	
SM 2320B	Alkalinity, Total as CaCO ₃	195	mg/L	5.0	12/08/16 09:02	
SM 2540C	Total Dissolved Solids	238	mg/L	20.0	11/30/16 21:01	
EPA 300.0	Chloride	6.2	mg/L	1.2	11/30/16 20:09	
EPA 300.0	Nitrate as N	2.9	mg/L	0.10	11/30/16 20:09	
EPA 300.0	Sulfate	10.9	mg/L	1.2	11/30/16 20:09	
SM 5310C	Total Organic Carbon	0.47J	mg/L	1.0	12/06/16 04:48	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 68976

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2046555001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 287431)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: HACH 8146

Description: Iron, Ferrous

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for HACH 8146. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Randall-GW-112916 (Lab ID: 10371582001)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 449536

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10370705008,10370952002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2461930)
 - Chloride
 - Sulfate
- MS (Lab ID: 2461932)
 - Chloride
 - Nitrate as N
- MSD (Lab ID: 2461931)
 - Chloride
 - Sulfate
- MSD (Lab ID: 2461933)
 - Chloride
 - Nitrate as N

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 2461932)
 - Sulfate
- MSD (Lab ID: 2461933)
 - Sulfate

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: SM 3500-Cr D Modified

Description: Chromium, Hexavalent

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for SM 3500-Cr D Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

1 sample was analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

Sample: Randall-GW-112916 **Lab ID: 10371582001** Collected: 11/29/16 11:40 Received: 11/30/16 09:50 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace									
Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/02/16 16:28	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/02/16 16:28	74-85-1	
Methane	1.4J	ug/L	10.0	0.49	1		12/02/16 16:28	74-82-8	
2320B Alkalinity									
Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	195	mg/L	5.0	1.4	1		12/08/16 09:02		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Total Dissolved Solids	238	mg/L	20.0	10.0	1		11/30/16 21:01		
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/01/16 14:18	18496-25-8	
Iron, Ferrous									
Analytical Method: HACH 8146									
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 11:56		H6
300.0 IC Anions									
Analytical Method: EPA 300.0									
Chloride	6.2	mg/L	1.2	0.10	1		11/30/16 20:09	16887-00-6	
Nitrate as N	2.9	mg/L	0.10	0.013	1		11/30/16 20:09	14797-55-8	
Sulfate	10.9	mg/L	1.2	0.16	1		11/30/16 20:09	14808-79-8	
Chromium, Hexavalent									
Analytical Method: SM 3500-Cr D Modified									
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		11/30/16 11:15		
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.47J	mg/L	1.0	0.20	1		12/06/16 04:48	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

QC Batch: 449948

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 10371582001

METHOD BLANK: 2464091

Matrix: Water

Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/02/16 13:00	
Ethene	ug/L	<0.77	10.0	0.77	12/02/16 13:00	
Methane	ug/L	1.6J	10.0	0.49	12/02/16 13:00	

LABORATORY CONTROL SAMPLE & LCSD: 2464092

2464093

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	% Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	106	121	93	106	85-115	13	20	
Ethene	ug/L	106	97.6	113	92	107	85-115	15	20	
Methane	ug/L	60.7	55.8	64.8	92	107	85-115	15	20	

SAMPLE DUPLICATE: 2465461

Parameter	Units	10371664001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	<10.0	<0.87		20	
Ethene	ug/L	<10.0	<0.77		20	
Methane	ug/L	<10.0	1.7J		20	

SAMPLE DUPLICATE: 2465462

Parameter	Units	60233193002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	1540	1470	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

QC Batch: 450753 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 10371582001

METHOD BLANK: 2468129 Matrix: Water
 Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	12/08/16 08:40	

LABORATORY CONTROL SAMPLE & LCSD: 2468130 2468131

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.3	42.2	106	105	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2468132 2468133

Parameter	Units	10371665002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	54.0	40	40	94.9	95.5	102	104	80-120	1	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

QC Batch: 449558	Analysis Method: SM 2540C
QC Batch Method: SM 2540C	Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 10371582001	

METHOD BLANK: 2462066 Matrix: Water

Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	11/30/16 21:01	

LABORATORY CONTROL SAMPLE: 2462067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	958	96	80-120	

SAMPLE DUPLICATE: 2462068

Parameter	Units	1279497001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	51.0	52.0	2	10	

SAMPLE DUPLICATE: 2462069

Parameter	Units	10371557001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1670	1680	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

QC Batch: 68976 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10371582001

METHOD BLANK: 287428 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/01/16 14:15	

LABORATORY CONTROL SAMPLE: 287429

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 287431

Parameter	Units	2046555001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.15	65	75-125	M1

SAMPLE DUPLICATE: 287430

Parameter	Units	2046555001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.017J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

QC Batch: 244160 Analysis Method: HACH 8146
QC Batch Method: HACH 8146 Analysis Description: Iron, Ferrous
Associated Lab Samples: 10371582001

METHOD BLANK: 1445896 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

METHOD BLANK: 1445903 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

METHOD BLANK: 1445904 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

LABORATORY CONTROL SAMPLE: 1445897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.6	0.51	85	80-120	

LABORATORY CONTROL SAMPLE: 1446029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.085J	85	80-120	

LABORATORY CONTROL SAMPLE: 1446030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.082J	82	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

LABORATORY CONTROL SAMPLE: 1446031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.094	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445898 1445899

Parameter	Units	10371787001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result										
Iron, Ferrous	mg/L	<0.028	.6	.6	0.69	0.68	116	114	80-120	1	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

QC Batch: 449536 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10371582001

METHOD BLANK: 2461928 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	11/30/16 18:24	
Nitrate as N	mg/L	<0.013	0.10	0.013	11/30/16 18:24	
Sulfate	mg/L	<0.16	1.2	0.16	11/30/16 18:24	

LABORATORY CONTROL SAMPLE: 2461929

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.9	104	90-110	
Nitrate as N	mg/L	1	0.98	98	90-110	
Sulfate	mg/L	12.5	12.9	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2461930 2461931

Parameter	Units	10370705008		2461930		2461931		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Chloride	mg/L	8.5	12.5	12.5	19.6	19.6	89	89	90-110	0	20	M1	
Nitrate as N	mg/L	0.27	1	1	1.2	1.2	92	93	90-110	0	20		
Sulfate	mg/L	14.7	12.5	12.5	25.1	25.2	83	84	90-110	0	20	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2461932 2461933

Parameter	Units	10370952002		2461932		2461933		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Chloride	mg/L	15.8	12.5	12.5	26.0	26.0	81	81	90-110	0	20	M1	
Nitrate as N	mg/L	0.88	1	1	1.8	1.8	88	88	90-110	0	20	M1	
Sulfate	mg/L	266	125	125	374	373	87	86	90-110	0	20	M6	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

QC Batch: 449442	Analysis Method: SM 3500-Cr D Modified
QC Batch Method: SM 3500-Cr D Modified	Analysis Description: Chromium, Hexavalent by 3500
Associated Lab Samples: 10371582001	

METHOD BLANK: 2461530 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0030	0.010	0.0030	11/30/16 12:05	FS

LABORATORY CONTROL SAMPLE: 2461531

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.2	0.20	102	90-110	FS

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2461532 2461533

Parameter	Units	10371582001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.0030	.2	.2	0.20	0.21	102	103	85-115	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

QC Batch: 101420 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10371582001

METHOD BLANK: 403116 Matrix: Water
Associated Lab Samples: 10371582001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/06/16 00:23	

LABORATORY CONTROL SAMPLE: 403117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	24.8	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403118 403119

Parameter	Units	10370969001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	2.3	25	25	28.6	28.2	105	104	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403120 403121

Parameter	Units	10371080001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	248	250	250	496	493	99	98	80-120	1	20	

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10371582

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay
PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

FS The sample was filtered in the laboratory prior to analysis.
H6 Analysis initiated outside of the 15 minute EPA required holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371582

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10371582001	Randall-GW-112916	RSK 175	449948		
10371582001	Randall-GW-112916	SM 2320B	450753		
10371582001	Randall-GW-112916	SM 2540C	449558		
10371582001	Randall-GW-112916	SM 4500-S-2 D	68976		
10371582001	Randall-GW-112916	HACH 8146	244160		
10371582001	Randall-GW-112916	EPA 300.0	449536		
10371582001	Randall-GW-112916	SM 3500-Cr D Modified	449442		
10371582001	Randall-GW-112916	SM 5310C	101420		

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Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.19

Document Revised: 05Jan2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

**Sample Condition
 Upon Receipt - ESI
 Tech Specs**

Client Name: CH2M Hill UPRR Project #: _____

WO#: 10371582

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____



Tracking Number: 7096 3270 9722

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer 151401163 B88A912167504 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: 151401164 B88A0143310098

Cooler Temp Read (°C): 4.6 Cooler Temp Corrected (°C): 4.6 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: ±0.0 Date and Initials of Person Examining Contents: 11-30-16 TL

USDA Regulated Soil N/A, water sample
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH 2m <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Sample # <u>1</u>
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: Mark Ochsner Date/Time: 11/29/16 14:10

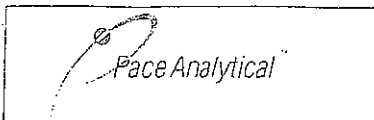
Comments/Resolution: Per Mark, WA state certification is not required for ferrous iron or sulfide.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>1105</u>	Temp: <u>4.6</u>	Corrected Temp: <u>4.6</u>
Time: <u>1025</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS Date: 11/30/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Document Name:
Sample Condition Upon Receipt Form

Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
Page 1 of 1

Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

Project #:

WO#: 1279705



Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: haz pad Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.2 Cooler Temp Corrected °C: 1.5 Biological Tissue Frozen? Yes No N/A
Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: JAC 11/30/16

Comments: to BCL 12-1-16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrin Fern

Date: 12/1/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody _____

WO#: 2046571



Workorder: 10371582

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 11/30/2016

Results Requested By: 12/14/2016

Report To		Subcontract To					Requested Analysis												LAB USE ONLY				
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																					
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers					4500 Sulfide												
						Other																	
1	Randall-GW-112916	PS	11/29/2016 11:40	10371582001	Water	1					X												
2																							
3																							
4																							
5																							

Transfers						Comments											
Released By	Date/Time	Received By	Date/Time														
<i>[Signature]</i> Pace MN	11/30/16 1300																
		<i>[Signature]</i>	12-1-16 8:50														

Cooler Temperature on Receipt 3.4 °C Custody Seal or N Received on Ice or N Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec

Projec

WO#: 2046571

PM: ADC

Due Date: 12/14/16

CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-01-16 [initials]

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____	
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

December 02, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

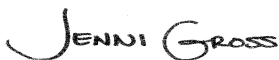
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10371721

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10371721

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10371721001	Marlow-GW-113016	Water	11/30/16 10:00	12/01/16 10:00
10371721002	Asher-GW-113016	Water	11/30/16 11:55	12/01/16 10:00
10371721003	Marlow-GW-FD-113016	Water	11/30/16 10:05	12/01/16 10:00
10371721004	Lashaw-GW-113016	Water	11/30/16 13:00	12/01/16 10:00
10371721005	SILVA-GW-113016	Water	11/30/16 14:00	12/01/16 10:00
10371721006	Trip Blank	Water	11/30/16 08:00	12/01/16 10:00

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10371721001	Marlow-GW-113016	EPA 8260B	DJB	83	PASI-M
10371721002	Asher-GW-113016	EPA 8260B	DJB	83	PASI-M
10371721003	Marlow-GW-FD-113016	EPA 8260B	DJB	83	PASI-M
10371721004	Lashaw-GW-113016	EPA 8260B	DJB	83	PASI-M
10371721005	SILVA-GW-113016	EPA 8260B	DJB	83	PASI-M
10371721006	Trip Blank	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10371721001	Marlow-GW-113016					
EPA 8260B	Carbon disulfide	0.23J	ug/L	1.0	12/02/16 01:47	
EPA 8260B	Carbon tetrachloride	143	ug/L	1.0	12/02/16 01:47	M1
EPA 8260B	Chloroform	8.8	ug/L	1.0	12/02/16 01:47	
10371721003	Marlow-GW-FD-113016					
EPA 8260B	Carbon disulfide	0.26J	ug/L	1.0	12/02/16 02:53	
EPA 8260B	Carbon tetrachloride	142	ug/L	1.0	12/02/16 02:53	
EPA 8260B	Chloroform	8.7	ug/L	1.0	12/02/16 02:53	
10371721004	Lashaw-GW-113016					
EPA 8260B	Carbon tetrachloride	0.89J	ug/L	1.0	12/02/16 02:31	
10371721006	Trip Blank					
EPA 8260B	Acetone	1.3J	ug/L	20.0	12/02/16 00:41	
EPA 8260B	Methylene Chloride	0.35J	ug/L	4.0	12/02/16 00:41	

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 02, 2016

General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 449742

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10371721001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2463123)
 - Acrolein
- MSD (Lab ID: 2463124)
 - Carbon tetrachloride

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Marlow-GW-113016 Lab ID: 10371721001 Collected: 11/30/16 10:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 01:47	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/02/16 01:47	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 01:47	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 01:47	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/02/16 01:47	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 01:47	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/02/16 01:47	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/02/16 01:47	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/02/16 01:47	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/02/16 01:47	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/02/16 01:47	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/02/16 01:47	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/02/16 01:47	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/02/16 01:47	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/02/16 01:47	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/02/16 01:47	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/02/16 01:47	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/02/16 01:47	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/02/16 01:47	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/02/16 01:47	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/02/16 01:47	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/02/16 01:47	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/02/16 01:47	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/02/16 01:47	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/02/16 01:47	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/02/16 01:47	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/02/16 01:47	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/02/16 01:47	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/02/16 01:47	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/02/16 01:47	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/02/16 01:47	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/02/16 01:47	107-02-8	M1
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/02/16 01:47	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/02/16 01:47	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/02/16 01:47	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/02/16 01:47	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/02/16 01:47	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/02/16 01:47	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/02/16 01:47	74-83-9	
Carbon disulfide	0.23J	ug/L	1.0	0.20	1		12/02/16 01:47	75-15-0	
Carbon tetrachloride	143	ug/L	1.0	0.079	1		12/02/16 01:47	56-23-5	M1
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/02/16 01:47	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/02/16 01:47	75-00-3	
Chloroform	8.8	ug/L	1.0	0.21	1		12/02/16 01:47	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/02/16 01:47	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/02/16 01:47	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Marlow-GW-113016 **Lab ID: 10371721001** Collected: 11/30/16 10:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/02/16 01:47	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/02/16 01:47	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/02/16 01:47	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/02/16 01:47	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/02/16 01:47	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/02/16 01:47	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/02/16 01:47	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/02/16 01:47	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/02/16 01:47	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/02/16 01:47	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/02/16 01:47	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/02/16 01:47	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/02/16 01:47	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/02/16 01:47	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/02/16 01:47	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/02/16 01:47	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/02/16 01:47	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/02/16 01:47	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/02/16 01:47	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/02/16 01:47	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/02/16 01:47	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/02/16 01:47	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/02/16 01:47	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/02/16 01:47	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/02/16 01:47	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/02/16 01:47	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/02/16 01:47	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/02/16 01:47	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/02/16 01:47	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/02/16 01:47	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/02/16 01:47	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/02/16 01:47	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/02/16 01:47	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/02/16 01:47	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		12/02/16 01:47	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/02/16 01:47	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/02/16 01:47	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Asher-GW-113016 Lab ID: 10371721002 Collected: 11/30/16 11:55 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 02:09	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/02/16 02:09	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:09	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 02:09	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/02/16 02:09	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:09	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/02/16 02:09	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/02/16 02:09	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/02/16 02:09	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/02/16 02:09	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/02/16 02:09	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/02/16 02:09	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/02/16 02:09	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/02/16 02:09	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/02/16 02:09	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/02/16 02:09	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/02/16 02:09	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/02/16 02:09	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/02/16 02:09	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/02/16 02:09	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/02/16 02:09	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/02/16 02:09	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/02/16 02:09	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/02/16 02:09	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/02/16 02:09	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/02/16 02:09	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/02/16 02:09	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/02/16 02:09	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/02/16 02:09	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/02/16 02:09	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/02/16 02:09	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/02/16 02:09	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/02/16 02:09	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/02/16 02:09	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/02/16 02:09	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/02/16 02:09	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/02/16 02:09	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/02/16 02:09	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/02/16 02:09	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/02/16 02:09	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/02/16 02:09	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/02/16 02:09	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/02/16 02:09	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/02/16 02:09	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/02/16 02:09	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/02/16 02:09	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Asher-GW-113016 **Lab ID: 10371721002** Collected: 11/30/16 11:55 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/02/16 02:09	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/02/16 02:09	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/02/16 02:09	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/02/16 02:09	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/02/16 02:09	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/02/16 02:09	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/02/16 02:09	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/02/16 02:09	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/02/16 02:09	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/02/16 02:09	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/02/16 02:09	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/02/16 02:09	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/02/16 02:09	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/02/16 02:09	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/02/16 02:09	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/02/16 02:09	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:09	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/02/16 02:09	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/02/16 02:09	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/02/16 02:09	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/02/16 02:09	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/02/16 02:09	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/02/16 02:09	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/02/16 02:09	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/02/16 02:09	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/02/16 02:09	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/02/16 02:09	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/02/16 02:09	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/02/16 02:09	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/02/16 02:09	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/02/16 02:09	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/02/16 02:09	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/02/16 02:09	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/02/16 02:09	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		12/02/16 02:09	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/02/16 02:09	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/02/16 02:09	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Marlow-GW-FD-113016 Lab ID: 10371721003 Collected: 11/30/16 10:05 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 02:53	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/02/16 02:53	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:53	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 02:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/02/16 02:53	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:53	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/02/16 02:53	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/02/16 02:53	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/02/16 02:53	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/02/16 02:53	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/02/16 02:53	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/02/16 02:53	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/02/16 02:53	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/02/16 02:53	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/02/16 02:53	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/02/16 02:53	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/02/16 02:53	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/02/16 02:53	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/02/16 02:53	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/02/16 02:53	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/02/16 02:53	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/02/16 02:53	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/02/16 02:53	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/02/16 02:53	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/02/16 02:53	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/02/16 02:53	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/02/16 02:53	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/02/16 02:53	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/02/16 02:53	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/02/16 02:53	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/02/16 02:53	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/02/16 02:53	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/02/16 02:53	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/02/16 02:53	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/02/16 02:53	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/02/16 02:53	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/02/16 02:53	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/02/16 02:53	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/02/16 02:53	74-83-9	
Carbon disulfide	0.26J	ug/L	1.0	0.20	1		12/02/16 02:53	75-15-0	
Carbon tetrachloride	142	ug/L	1.0	0.079	1		12/02/16 02:53	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/02/16 02:53	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/02/16 02:53	75-00-3	
Chloroform	8.7	ug/L	1.0	0.21	1		12/02/16 02:53	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/02/16 02:53	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/02/16 02:53	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Marlow-GW-FD-113016 **Lab ID: 10371721003** Collected: 11/30/16 10:05 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/02/16 02:53	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/02/16 02:53	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/02/16 02:53	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/02/16 02:53	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/02/16 02:53	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/02/16 02:53	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/02/16 02:53	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/02/16 02:53	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/02/16 02:53	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/02/16 02:53	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/02/16 02:53	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/02/16 02:53	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/02/16 02:53	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/02/16 02:53	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/02/16 02:53	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/02/16 02:53	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:53	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/02/16 02:53	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/02/16 02:53	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/02/16 02:53	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/02/16 02:53	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/02/16 02:53	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/02/16 02:53	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/02/16 02:53	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/02/16 02:53	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/02/16 02:53	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/02/16 02:53	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/02/16 02:53	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/02/16 02:53	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/02/16 02:53	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/02/16 02:53	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/02/16 02:53	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/02/16 02:53	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/02/16 02:53	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		12/02/16 02:53	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		12/02/16 02:53	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/02/16 02:53	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Lashaw-GW-113016 **Lab ID: 10371721004** Collected: 11/30/16 13:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 02:31	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/02/16 02:31	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:31	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 02:31	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/02/16 02:31	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:31	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/02/16 02:31	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/02/16 02:31	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/02/16 02:31	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/02/16 02:31	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/02/16 02:31	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/02/16 02:31	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/02/16 02:31	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/02/16 02:31	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/02/16 02:31	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/02/16 02:31	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/02/16 02:31	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/02/16 02:31	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/02/16 02:31	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/02/16 02:31	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/02/16 02:31	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/02/16 02:31	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/02/16 02:31	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/02/16 02:31	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/02/16 02:31	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/02/16 02:31	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/02/16 02:31	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/02/16 02:31	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/02/16 02:31	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/02/16 02:31	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/02/16 02:31	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/02/16 02:31	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/02/16 02:31	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/02/16 02:31	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/02/16 02:31	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/02/16 02:31	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/02/16 02:31	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/02/16 02:31	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/02/16 02:31	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/02/16 02:31	75-15-0	
Carbon tetrachloride	0.89J	ug/L	1.0	0.079	1		12/02/16 02:31	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/02/16 02:31	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/02/16 02:31	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/02/16 02:31	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/02/16 02:31	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/02/16 02:31	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Lashaw-GW-113016 Lab ID: 10371721004 Collected: 11/30/16 13:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/02/16 02:31	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/02/16 02:31	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/02/16 02:31	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/02/16 02:31	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/02/16 02:31	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/02/16 02:31	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/02/16 02:31	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/02/16 02:31	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/02/16 02:31	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/02/16 02:31	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/02/16 02:31	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/02/16 02:31	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/02/16 02:31	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/02/16 02:31	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/02/16 02:31	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/02/16 02:31	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/02/16 02:31	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/02/16 02:31	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/02/16 02:31	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/02/16 02:31	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/02/16 02:31	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/02/16 02:31	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/02/16 02:31	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/02/16 02:31	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/02/16 02:31	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/02/16 02:31	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/02/16 02:31	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/02/16 02:31	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/02/16 02:31	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/02/16 02:31	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/02/16 02:31	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/02/16 02:31	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/02/16 02:31	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/02/16 02:31	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	75-125		1		12/02/16 02:31	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/02/16 02:31	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/02/16 02:31	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: SILVA-GW-113016 **Lab ID: 10371721005** Collected: 11/30/16 14:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 03:15	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/02/16 03:15	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 03:15	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 03:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/02/16 03:15	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 03:15	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/02/16 03:15	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/02/16 03:15	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/02/16 03:15	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/02/16 03:15	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/02/16 03:15	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/02/16 03:15	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/02/16 03:15	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/02/16 03:15	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/02/16 03:15	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/02/16 03:15	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/02/16 03:15	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/02/16 03:15	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/02/16 03:15	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/02/16 03:15	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/02/16 03:15	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/02/16 03:15	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/02/16 03:15	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/02/16 03:15	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/02/16 03:15	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/02/16 03:15	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/02/16 03:15	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/02/16 03:15	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/02/16 03:15	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/02/16 03:15	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/02/16 03:15	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/02/16 03:15	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/02/16 03:15	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/02/16 03:15	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/02/16 03:15	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/02/16 03:15	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/02/16 03:15	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/02/16 03:15	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/02/16 03:15	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/02/16 03:15	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/02/16 03:15	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/02/16 03:15	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/02/16 03:15	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/02/16 03:15	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/02/16 03:15	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/02/16 03:15	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: **SILVA-GW-113016** Lab ID: **10371721005** Collected: 11/30/16 14:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/02/16 03:15	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/02/16 03:15	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/02/16 03:15	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/02/16 03:15	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/02/16 03:15	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/02/16 03:15	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/02/16 03:15	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/02/16 03:15	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/02/16 03:15	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/02/16 03:15	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/02/16 03:15	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/02/16 03:15	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/02/16 03:15	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/02/16 03:15	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/02/16 03:15	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/02/16 03:15	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/02/16 03:15	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/02/16 03:15	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/02/16 03:15	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/02/16 03:15	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/02/16 03:15	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/02/16 03:15	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/02/16 03:15	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/02/16 03:15	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/02/16 03:15	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/02/16 03:15	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/02/16 03:15	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/02/16 03:15	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/02/16 03:15	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/02/16 03:15	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/02/16 03:15	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/02/16 03:15	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/02/16 03:15	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/02/16 03:15	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		12/02/16 03:15	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		12/02/16 03:15	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/02/16 03:15	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Trip Blank **Lab ID: 10371721006** Collected: 11/30/16 08:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 00:41	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/02/16 00:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 00:41	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/02/16 00:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/02/16 00:41	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/02/16 00:41	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/02/16 00:41	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/02/16 00:41	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/02/16 00:41	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/02/16 00:41	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/02/16 00:41	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/02/16 00:41	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/02/16 00:41	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/02/16 00:41	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/02/16 00:41	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/02/16 00:41	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/02/16 00:41	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/02/16 00:41	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/02/16 00:41	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/02/16 00:41	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/02/16 00:41	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/02/16 00:41	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/02/16 00:41	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/02/16 00:41	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/02/16 00:41	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/02/16 00:41	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/02/16 00:41	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/02/16 00:41	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/02/16 00:41	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/02/16 00:41	108-10-1	
Acetone	1.3J	ug/L	20.0	0.64	1		12/02/16 00:41	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/02/16 00:41	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/02/16 00:41	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/02/16 00:41	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/02/16 00:41	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/02/16 00:41	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/02/16 00:41	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/02/16 00:41	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/02/16 00:41	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/02/16 00:41	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/02/16 00:41	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/02/16 00:41	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/02/16 00:41	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/02/16 00:41	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/02/16 00:41	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/02/16 00:41	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Sample: Trip Blank **Lab ID: 10371721006** Collected: 11/30/16 08:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/02/16 00:41	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/02/16 00:41	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/02/16 00:41	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/02/16 00:41	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/02/16 00:41	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/02/16 00:41	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/02/16 00:41	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/02/16 00:41	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/02/16 00:41	1634-04-4	
Methylene Chloride	0.35J	ug/L	4.0	0.097	1		12/02/16 00:41	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/02/16 00:41	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/02/16 00:41	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/02/16 00:41	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/02/16 00:41	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/02/16 00:41	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/02/16 00:41	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/02/16 00:41	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/02/16 00:41	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/02/16 00:41	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/02/16 00:41	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/02/16 00:41	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/02/16 00:41	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/02/16 00:41	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/02/16 00:41	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/02/16 00:41	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/02/16 00:41	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/02/16 00:41	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/02/16 00:41	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/02/16 00:41	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/02/16 00:41	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/02/16 00:41	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/02/16 00:41	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/02/16 00:41	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/02/16 00:41	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		12/02/16 00:41	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/02/16 00:41	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/02/16 00:41	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371721

QC Batch: 449742 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10371721001, 10371721002, 10371721003, 10371721004, 10371721005, 10371721006

METHOD BLANK: 2463121 Matrix: Water
Associated Lab Samples: 10371721001, 10371721002, 10371721003, 10371721004, 10371721005, 10371721006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/02/16 00:19	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/02/16 00:19	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/02/16 00:19	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/02/16 00:19	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/02/16 00:19	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/02/16 00:19	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/02/16 00:19	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/02/16 00:19	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/02/16 00:19	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/02/16 00:19	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/02/16 00:19	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/02/16 00:19	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/02/16 00:19	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/02/16 00:19	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/02/16 00:19	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/02/16 00:19	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/02/16 00:19	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/02/16 00:19	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/02/16 00:19	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/02/16 00:19	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/02/16 00:19	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/02/16 00:19	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/02/16 00:19	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/02/16 00:19	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/02/16 00:19	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/02/16 00:19	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/02/16 00:19	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/02/16 00:19	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/02/16 00:19	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/02/16 00:19	
Acetone	ug/L	<0.64	20.0	0.64	12/02/16 00:19	
Acrolein	ug/L	<2.1	10.0	2.1	12/02/16 00:19	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/02/16 00:19	
Benzene	ug/L	<0.042	0.50	0.042	12/02/16 00:19	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/02/16 00:19	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/02/16 00:19	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/02/16 00:19	
Bromoform	ug/L	<0.11	4.0	0.11	12/02/16 00:19	
Bromomethane	ug/L	<0.20	4.0	0.20	12/02/16 00:19	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/02/16 00:19	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/02/16 00:19	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

METHOD BLANK: 2463121

Matrix: Water

Associated Lab Samples: 10371721001, 10371721002, 10371721003, 10371721004, 10371721005, 10371721006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/02/16 00:19	
Chloroethane	ug/L	<0.12	1.0	0.12	12/02/16 00:19	
Chloroform	ug/L	<0.21	1.0	0.21	12/02/16 00:19	
Chloromethane	ug/L	<0.080	4.0	0.080	12/02/16 00:19	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/02/16 00:19	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/02/16 00:19	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/02/16 00:19	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/02/16 00:19	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/02/16 00:19	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/02/16 00:19	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/02/16 00:19	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/02/16 00:19	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/02/16 00:19	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/02/16 00:19	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/02/16 00:19	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/02/16 00:19	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/02/16 00:19	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/02/16 00:19	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/02/16 00:19	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/02/16 00:19	
Naphthalene	ug/L	<0.064	1.0	0.064	12/02/16 00:19	
o-Xylene	ug/L	<0.044	0.50	0.044	12/02/16 00:19	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/02/16 00:19	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/02/16 00:19	
Styrene	ug/L	<0.056	0.50	0.056	12/02/16 00:19	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/02/16 00:19	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/02/16 00:19	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/02/16 00:19	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/02/16 00:19	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/02/16 00:19	
Toluene	ug/L	<0.059	0.50	0.059	12/02/16 00:19	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/02/16 00:19	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/02/16 00:19	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/02/16 00:19	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/02/16 00:19	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/02/16 00:19	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/02/16 00:19	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/02/16 00:19	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/02/16 00:19	
1,2-Dichloroethane-d4 (S)	%	110	75-125		12/02/16 00:19	
4-Bromofluorobenzene (S)	%	101	75-125		12/02/16 00:19	
Toluene-d8 (S)	%	103	75-125		12/02/16 00:19	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

LABORATORY CONTROL SAMPLE: 2463122

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	22.9	115	75-125	
1,1,1-Trichloroethane	ug/L	20	20.1	101	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	23.4	117	67-131	
1,1,2-Trichloroethane	ug/L	20	22.2	111	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.3	96	75-125	
1,1-Dichloroethane	ug/L	20	19.1	96	74-125	
1,1-Dichloroethene	ug/L	20	20.0	100	74-125	
1,1-Dichloropropene	ug/L	20	18.9	95	74-125	
1,2,3-Trichlorobenzene	ug/L	20	20.5	102	63-131	
1,2,3-Trichloropropane	ug/L	20	20.9	104	73-125	
1,2,4-Trichlorobenzene	ug/L	20	19.5	98	66-126	
1,2,4-Trimethylbenzene	ug/L	20	20.4	102	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	54.0	108	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	21.6	108	75-125	
1,2-Dichlorobenzene	ug/L	20	20.1	100	75-125	
1,2-Dichloroethane	ug/L	20	18.9	95	75-125	
1,2-Dichloroethene (Total)	ug/L	40	37.8	95	75-125	
1,2-Dichloropropane	ug/L	20	19.4	97	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.7	103	73-127	
1,3-Dichlorobenzene	ug/L	20	20.9	104	75-125	
1,3-Dichloropropane	ug/L	20	19.8	99	69-125	
1,4-Dichlorobenzene	ug/L	20	20.2	101	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	429	107	70-130	
2,2,4-Trimethylpentane	ug/L	20	18.4	92	67-138	
2,2-Dichloropropane	ug/L	20	18.6	93	69-125	
2-Butanone (MEK)	ug/L	100	91.4	91	48-145	
2-Chlorotoluene	ug/L	20	20.3	101	74-125	
2-Hexanone	ug/L	100	99.3	99	63-135	
4-Chlorotoluene	ug/L	20	21.0	105	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.3	98	53-138	
Acetone	ug/L	100	93.7	94	70-142	
Acrolein	ug/L	200	242	121	44-150	
Acrylonitrile	ug/L	200	189	95	68-125	
Benzene	ug/L	20	18.4	92	65-125	
Bromobenzene	ug/L	20	20.1	101	75-125	
Bromochloromethane	ug/L	20	20.1	101	75-125	
Bromodichloromethane	ug/L	20	20.5	102	73-125	
Bromoform	ug/L	20	21.7	109	69-125	
Bromomethane	ug/L	20	20.4	102	40-136	
Carbon disulfide	ug/L	20	18.1	91	36-150	
Carbon tetrachloride	ug/L	20	22.9	114	70-125	
Chlorobenzene	ug/L	20	19.7	99	75-125	
Chloroethane	ug/L	20	21.7	108	67-141	
Chloroform	ug/L	20	19.2	96	75-125	
Chloromethane	ug/L	20	19.5	98	50-150	
cis-1,2-Dichloroethene	ug/L	20	19.0	95	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.3	97	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

LABORATORY CONTROL SAMPLE: 2463122

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	22.4	112	75-125	
Dibromomethane	ug/L	20	19.4	97	75-129	
Dichlorodifluoromethane	ug/L	20	22.0	110	59-135	
Dichlorofluoromethane	ug/L	20	20.8	104	74-130	
Diisopropyl ether	ug/L	20	18.4	92	71-125	
Ethyl-tert-butyl ether	ug/L	20	18.1	91	70-130	
Ethylbenzene	ug/L	20	19.8	99	75-125	
Hexachloro-1,3-butadiene	ug/L	20	23.3	117	72-126	
Isopropylbenzene (Cumene)	ug/L	20	20.2	101	71-136	
m&p-Xylene	ug/L	40	40.5	101	75-125	
Methyl-tert-butyl ether	ug/L	20	18.3	92	73-127	
Methylene Chloride	ug/L	20	19.3	96	68-128	
n-Butylbenzene	ug/L	20	20.9	104	70-126	
n-Propylbenzene	ug/L	20	20.3	101	67-131	
Naphthalene	ug/L	20	19.8	99	52-134	
o-Xylene	ug/L	20	20.1	100	75-125	
p-Isopropyltoluene	ug/L	20	20.8	104	74-125	
sec-Butylbenzene	ug/L	20	20.7	104	69-134	
Styrene	ug/L	20	20.3	101	75-125	
tert-Amylmethyl ether	ug/L	20	18.3	92	70-130	
tert-Butyl Alcohol	ug/L	200	216	108	66-128	
tert-Butylbenzene	ug/L	20	20.2	101	71-128	
Tetrachloroethene	ug/L	20	19.5	97	74-125	
Tetrahydrofuran	ug/L	200	183	91	64-142	
Toluene	ug/L	20	18.6	93	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	73-125	
trans-1,3-Dichloropropene	ug/L	20	20.9	104	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	43.2	86	54-133	
Trichloroethene	ug/L	20	19.2	96	75-125	
Trichlorofluoromethane	ug/L	20	21.1	106	75-126	
Vinyl acetate	ug/L	20	20.9	104	67-126	
Vinyl chloride	ug/L	20	21.0	105	72-125	
Xylene (Total)	ug/L	60	60.5	101	75-125	
1,2-Dichloroethane-d4 (S)	%			103	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			104	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2463123 2463124

Parameter	Units	10371721001		MSD		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	24.7	19.8	124	99	75-127	22	30		
1,1,1-Trichloroethane	ug/L	<0.057	20	20	22.3	18.7	112	93	66-142	18	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	24.7	20.4	123	102	70-131	19	30		
1,1,2-Trichloroethane	ug/L	<0.064	20	20	22.7	18.6	114	93	75-128	20	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2463123		2463124									
Parameter	Units	MS		MSD		MS		MSD		% Rec	Limits	Max RPD	Qual
		10371721001	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	24.5	20.4	123	102	54-150	18	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	21.0	17.3	105	86	58-147	19	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	22.1	18.0	110	90	49-150	20	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	21.4	18.0	107	90	58-147	17	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	21.3	17.9	106	90	57-139	17	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	21.8	18.2	109	91	71-127	18	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	20.9	17.3	105	87	55-136	19	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	21.9	18.3	109	91	67-138	18	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	58.0	47.0	116	94	63-136	21	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	21.8	18.0	109	90	74-125	19	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	21.1	17.7	105	88	75-125	17	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	20.3	16.9	102	85	63-133	18	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	41.2	34.8	103	87	55-146	17	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	21.0	17.0	105	85	63-138	21	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	22.5	18.7	112	94	69-136	18	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	22.1	18.5	111	92	75-125	18	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	20.9	17.1	105	86	65-135	20	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	21.0	17.9	105	89	70-126	16	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	444	364	111	91	54-145	20	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	23.4	19.3	117	96	30-150	19	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	21.0	17.4	105	87	39-148	19	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	99.8	80.2	100	80	50-144	22	30		
2-Chlorotoluene	ug/L	<0.084	20	20	21.9	18.1	110	91	71-135	19	30		
2-Hexanone	ug/L	<0.19	100	100	108	87.9	108	88	43-150	20	30		
4-Chlorotoluene	ug/L	<0.048	20	20	22.7	18.8	114	94	71-131	19	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	106	86.9	106	87	60-147	19	30		
Acetone	ug/L	<0.64	100	100	91.7	75.7	92	76	59-150	19	30		
Acrolein	ug/L	<2.1	200	200	302	242	151	121	30-150	22	30	M1	
Acrylonitrile	ug/L	<0.49	200	200	205	168	103	84	41-148	20	30		
Benzene	ug/L	<0.042	20	20	20.3	16.7	101	84	61-138	19	30		
Bromobenzene	ug/L	<0.087	20	20	21.8	18.1	109	90	74-130	19	30		
Bromochloromethane	ug/L	<0.082	20	20	21.4	17.6	107	88	65-137	19	30		
Bromodichloromethane	ug/L	<0.068	20	20	22.1	18.2	111	91	66-136	19	30		
Bromoform	ug/L	<0.11	20	20	22.6	19.2	113	96	71-125	16	30		
Bromomethane	ug/L	<0.20	20	20	21.9	19.6	110	98	30-150	11	30		
Carbon disulfide	ug/L	0.23J	20	20	20.3	16.6	100	82	30-150	20	30		
Carbon tetrachloride	ug/L	143	20	20	161	155	93	64	68-140	4	30	M1	
Chlorobenzene	ug/L	<0.066	20	20	21.1	17.8	105	89	75-132	17	30		
Chloroethane	ug/L	<0.12	20	20	22.3	20.4	111	102	55-150	9	30		
Chloroform	ug/L	8.8	20	20	28.8	25.6	100	84	64-139	12	30		
Chloromethane	ug/L	<0.080	20	20	19.9	18.6	100	93	73-150	7	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	20.7	17.4	104	87	62-138	18	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	20.2	16.3	101	81	70-125	21	30		
Dibromochloromethane	ug/L	<0.048	20	20	23.7	19.7	118	99	74-125	18	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Parameter	Units	2463123		2463124		MS % Rec	MSD % Rec	% Rec	Limits	RPD	Max RPD	Qual
		10371721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	<0.14	20	20	20.5	16.4	103	82	66-138	22	30	
Dichlorodifluoromethane	ug/L	<0.075	20	20	24.8	22.8	124	114	53-150	9	30	
Dichlorofluoromethane	ug/L	<0.054	20	20	21.1	19.1	106	95	58-150	10	30	
Diisopropyl ether	ug/L	<0.050	20	20	19.9	16.4	100	82	50-139	19	30	
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	19.4	15.8	97	79	30-140	21	30	
Ethylbenzene	ug/L	<0.075	20	20	21.4	17.7	107	88	66-141	19	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	25.3	21.7	127	108	63-139	16	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	21.9	18.0	110	90	65-146	20	30	
m&p-Xylene	ug/L	<0.11	40	40	43.1	35.4	108	89	72-142	20	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	20.0	16.7	100	83	63-134	18	30	
Methylene Chloride	ug/L	<0.097	20	20	21.1	17.1	105	86	49-143	21	30	
n-Butylbenzene	ug/L	<0.16	20	20	22.7	19.1	114	95	67-134	18	30	
n-Propylbenzene	ug/L	<0.049	20	20	21.8	18.2	109	91	62-142	18	30	
Naphthalene	ug/L	<0.064	20	20	21.0	17.3	105	87	41-150	19	30	
o-Xylene	ug/L	<0.044	20	20	21.7	17.5	108	88	66-138	21	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	22.2	18.5	111	93	64-137	18	30	
sec-Butylbenzene	ug/L	<0.094	20	20	22.6	18.6	113	93	65-142	19	30	
Styrene	ug/L	<0.056	20	20	21.0	17.3	105	86	61-142	19	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.6	16.2	98	81	65-125	19	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	221	182	111	91	59-138	19	30	
tert-Butylbenzene	ug/L	<0.051	20	20	21.9	18.4	109	92	69-135	17	30	
Tetrachloroethene	ug/L	<0.13	20	20	21.0	17.5	105	88	62-142	18	30	
Tetrahydrofuran	ug/L	<1.5	200	200	182	148	91	74	55-150	20	30	
Toluene	ug/L	<0.059	20	20	19.9	16.4	99	82	66-132	19	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	20.5	17.5	102	87	48-150	16	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	21.8	18.0	109	90	65-130	19	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	46.8	37.8	94	76	31-150	21	30	
Trichloroethene	ug/L	<0.044	20	20	20.6	17.2	103	86	64-142	18	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	23.9	21.3	120	106	63-150	12	30	
Vinyl acetate	ug/L	<0.12	20	20	20.6	17.1	103	85	30-150	19	30	
Vinyl chloride	ug/L	<0.098	20	20	21.5	19.4	108	97	58-150	10	30	
Xylene (Total)	ug/L	<0.15	60	60	64.8	52.9	108	88	70-140	20	30	
1,2-Dichloroethane-d4 (S)	%						104	105	75-125			
4-Bromofluorobenzene (S)	%						101	103	75-125			
Toluene-d8 (S)	%						103	104	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371721

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10371721001	Marlow-GW-113016	EPA 8260B	449742		
10371721002	Asher-GW-113016	EPA 8260B	449742		
10371721003	Marlow-GW-FD-113016	EPA 8260B	449742		
10371721004	Lashaw-GW-113016	EPA 8260B	449742		
10371721005	SILVA-GW-113016	EPA 8260B	449742		
10371721006	Trip Blank	EPA 8260B	449742		

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Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.19

Document Revised: 05Jan2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

**Sample Condition
 Upon Receipt - ESI
 Tech Specs**

Client Name: UPRR CH2M Project #: _____

WO# : 10371721

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeeDee Other: _____

Tracking Number: 7096 3370 9700

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer 151401163 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: 151401164

Cooler Temp Read (°C): 4.2 Cooler Temp Corrected (°C): 4.2 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: ±0.0 Date and Initials of Person Examining Contents: 12.1.16 TL

USDA Regulated Soil N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
 If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>12.1.16 TL</u>	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: <u>VOA</u> Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: _____ Lot # of added preservative: _____
Per method, VOA pH is checked after analysis			
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15. <u>TLG TB's</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <u>103081</u>			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>1045</u> Temp: <u>4.2</u>	Corrected Temp: <u>4.2</u>	
Time: <u>1105</u> put in cooler		
Time: _____ Temp: _____	Corrected Temp: _____	

Project Manager Review: JENNI GROSS Date: 12/01/16
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 14, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 01, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):
E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Commonwealth of Virginia (TNI): 480246

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Green Bay Certification IDs

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10371787001	Marlow-GW-113016	Water	11/30/16 10:00	12/01/16 10:00
10371787002	Marlow-GW-FD-113016	Water	11/30/16 10:05	12/01/16 10:00
10371787003	Asher-GW-113016	Water	11/30/16 11:55	12/01/16 10:00
10371787004	Lashaw-GW-113016	Water	11/30/16 13:00	12/01/16 10:00
10371787005	SILVA-GW-113016	Water	11/30/16 14:00	12/01/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10371787001	Marlow-GW-113016	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	SMS2	1	PASI-N
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	KEO	3	PASI-M
		SM 3500-Cr D Modified	KEO	1	PASI-M
		SM 5310C	CRE	1	PASI-V
10371787002	Marlow-GW-FD-113016	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	SMS2	1	PASI-N
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	KEO	3	PASI-M
		SM 3500-Cr D Modified	KEO	1	PASI-M
		SM 5310C	CRE	1	PASI-V
10371787003	Asher-GW-113016	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	SMS2	1	PASI-N
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	KEO	3	PASI-M
		SM 3500-Cr D Modified	KEO	1	PASI-M
		SM 5310C	CRE	1	PASI-V
10371787004	Lashaw-GW-113016	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	SMS2	1	PASI-N
		HACH 8146	DEY	1	PASI-G

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10371787005	SILVA-GW-113016	EPA 300.0	KEO	3	PASI-M
		SM 3500-Cr D Modified	KEO	1	PASI-M
		SM 5310C	CRE	1	PASI-V
		RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	SMS2	1	PASI-N
		HACH 8146	DEY	1	PASI-G
		EPA 300.0	KEO	3	PASI-M
		SM 3500-Cr D Modified	KEO	1	PASI-M
		SM 5310C	CRE	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10371787001	Marlow-GW-113016					
RSK 175	Methane	1.3J	ug/L	10.0	12/06/16 13:26	
6010C Met	Arsenic, Dissolved	3.5J	ug/L	20.0	12/06/16 19:13	
6010C Met	Barium, Dissolved	27.7	ug/L	10.0	12/06/16 19:13	
6010C Met	Beryllium, Dissolved	0.090J	ug/L	5.0	12/06/16 19:13	
6010C Met	Calcium, Dissolved	47100	ug/L	500	12/06/16 19:13	
6010C Met	Copper, Dissolved	15.0	ug/L	10.0	12/06/16 19:13	
6010C Met	Lead, Dissolved	3.2J	ug/L	10.0	12/06/16 19:13	
6010C Met	Magnesium, Dissolved	13600	ug/L	500	12/06/16 19:13	
6010C Met	Manganese, Dissolved	0.52J	ug/L	5.0	12/06/16 19:13	
6010C Met	Potassium, Dissolved	1240J	ug/L	2500	12/06/16 19:13	
6010C Met	Sodium, Dissolved	12300	ug/L	1000	12/06/16 19:13	
6010C Met	Thallium, Dissolved	4.0J	ug/L	20.0	12/06/16 19:13	
6010C Met	Vanadium, Dissolved	8.7J	ug/L	15.0	12/06/16 19:13	
6010C Met	Zinc, Dissolved	152	ug/L	20.0	12/06/16 19:13	
SM 2320B	Alkalinity, Total as CaCO3	166	mg/L	5.0	12/10/16 12:49	
SM 2540C	Total Dissolved Solids	254	mg/L	10.0	12/03/16 15:41	
EPA 300.0	Chloride	12.9	mg/L	1.2	12/01/16 20:19	M1
EPA 300.0	Nitrate as N	3.9	mg/L	0.10	12/01/16 20:19	M1
EPA 300.0	Sulfate	13.4	mg/L	1.2	12/01/16 20:19	M1
SM 5310C	Total Organic Carbon	0.91J	mg/L	1.0	12/08/16 22:46	
10371787002	Marlow-GW-FD-113016					
RSK 175	Methane	1.3J	ug/L	10.0	12/06/16 15:45	
6010C Met	Barium, Dissolved	27.5	ug/L	10.0	12/06/16 19:26	
6010C Met	Beryllium, Dissolved	0.090J	ug/L	5.0	12/06/16 19:26	
6010C Met	Calcium, Dissolved	46600	ug/L	500	12/06/16 19:26	
6010C Met	Copper, Dissolved	35.5	ug/L	10.0	12/06/16 19:26	
6010C Met	Lead, Dissolved	4.3J	ug/L	10.0	12/06/16 19:26	
6010C Met	Magnesium, Dissolved	13500	ug/L	500	12/06/16 19:26	
6010C Met	Manganese, Dissolved	0.46J	ug/L	5.0	12/06/16 19:26	
6010C Met	Potassium, Dissolved	1250J	ug/L	2500	12/06/16 19:26	
6010C Met	Sodium, Dissolved	11900	ug/L	1000	12/06/16 19:26	
6010C Met	Thallium, Dissolved	4.0J	ug/L	20.0	12/06/16 19:26	
6010C Met	Vanadium, Dissolved	8.5J	ug/L	15.0	12/06/16 19:26	
6010C Met	Zinc, Dissolved	250	ug/L	20.0	12/06/16 19:26	
EPA 7470A	Mercury, Dissolved	0.041J	ug/L	0.20	12/04/16 17:14	
SM 2320B	Alkalinity, Total as CaCO3	165	mg/L	5.0	12/10/16 13:01	
SM 2540C	Total Dissolved Solids	256	mg/L	10.0	12/03/16 15:41	
EPA 300.0	Chloride	12.9	mg/L	1.2	12/01/16 21:22	
EPA 300.0	Nitrate as N	3.9	mg/L	0.10	12/01/16 21:22	
EPA 300.0	Sulfate	13.4	mg/L	1.2	12/01/16 21:22	
SM 5310C	Total Organic Carbon	0.67J	mg/L	1.0	12/08/16 23:25	
10371787003	Asher-GW-113016					
RSK 175	Methane	1.2J	ug/L	10.0	12/06/16 16:01	
6010C Met	Arsenic, Dissolved	4.1J	ug/L	20.0	12/06/16 19:29	
6010C Met	Barium, Dissolved	80.6	ug/L	10.0	12/06/16 19:29	
6010C Met	Calcium, Dissolved	65500	ug/L	500	12/06/16 19:29	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10371787003	Asher-GW-113016					
6010C Met	Copper, Dissolved	596	ug/L	10.0	12/06/16 19:29	
6010C Met	Lead, Dissolved	3.4J	ug/L	10.0	12/06/16 19:29	
6010C Met	Magnesium, Dissolved	19200	ug/L	500	12/06/16 19:29	
6010C Met	Manganese, Dissolved	0.44J	ug/L	5.0	12/06/16 19:29	
6010C Met	Potassium, Dissolved	1220J	ug/L	2500	12/06/16 19:29	
6010C Met	Sodium, Dissolved	20800	ug/L	1000	12/06/16 19:29	
6010C Met	Thallium, Dissolved	4.0J	ug/L	20.0	12/06/16 19:29	
6010C Met	Vanadium, Dissolved	11.1J	ug/L	15.0	12/06/16 19:29	
6010C Met	Zinc, Dissolved	31.9	ug/L	20.0	12/06/16 19:29	
EPA 7470A	Mercury, Dissolved	0.040J	ug/L	0.20	12/04/16 17:16	
SM 2320B	Alkalinity, Total as CaCO3	238	mg/L	5.0	12/10/16 13:04	
SM 2540C	Total Dissolved Solids	345	mg/L	10.0	12/03/16 15:41	
EPA 300.0	Chloride	7.8	mg/L	1.2	12/01/16 21:37	
EPA 300.0	Nitrate as N	7.6	mg/L	0.10	12/01/16 21:37	M1
EPA 300.0	Sulfate	29.9	mg/L	1.2	12/01/16 21:37	M1
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	12/09/16 00:04	
10371787004	Lashaw-GW-113016					
RSK 175	Methane	1.1J	ug/L	10.0	12/06/16 16:09	
6010C Met	Barium, Dissolved	9.5J	ug/L	10.0	12/06/16 19:32	
6010C Met	Calcium, Dissolved	26700	ug/L	500	12/06/16 19:32	
6010C Met	Copper, Dissolved	4.1J	ug/L	10.0	12/06/16 19:32	
6010C Met	Iron, Dissolved	19.7J	ug/L	50.0	12/06/16 19:32	
6010C Met	Lead, Dissolved	3.4J	ug/L	10.0	12/06/16 19:32	
6010C Met	Magnesium, Dissolved	12900	ug/L	500	12/06/16 19:32	
6010C Met	Manganese, Dissolved	1.2J	ug/L	5.0	12/06/16 19:32	
6010C Met	Potassium, Dissolved	3780	ug/L	2500	12/06/16 19:32	
6010C Met	Sodium, Dissolved	15700	ug/L	1000	12/06/16 19:32	
6010C Met	Vanadium, Dissolved	11.4J	ug/L	15.0	12/06/16 19:32	
6010C Met	Zinc, Dissolved	17.4J	ug/L	20.0	12/06/16 19:32	
EPA 7470A	Mercury, Dissolved	0.035J	ug/L	0.20	12/04/16 17:18	
SM 2320B	Alkalinity, Total as CaCO3	152	mg/L	5.0	12/10/16 13:08	
SM 2540C	Total Dissolved Solids	191	mg/L	10.0	12/07/16 19:55	
EPA 300.0	Chloride	1.8	mg/L	1.2	12/01/16 23:26	
EPA 300.0	Nitrate as N	2.4	mg/L	0.10	12/01/16 23:26	
EPA 300.0	Sulfate	5.9	mg/L	1.2	12/01/16 23:26	
SM 5310C	Total Organic Carbon	0.41J	mg/L	1.0	12/09/16 00:18	
10371787005	SILVA-GW-113016					
RSK 175	Methane	1.6J	ug/L	10.0	12/06/16 16:18	
6010C Met	Barium, Dissolved	0.29J	ug/L	10.0	12/06/16 19:34	
6010C Met	Calcium, Dissolved	83.6J	ug/L	500	12/06/16 19:34	
6010C Met	Copper, Dissolved	273	ug/L	10.0	12/06/16 19:34	
6010C Met	Lead, Dissolved	9.2J	ug/L	10.0	12/06/16 19:34	
6010C Met	Magnesium, Dissolved	1350	ug/L	500	12/06/16 19:34	
6010C Met	Manganese, Dissolved	7.2	ug/L	5.0	12/06/16 19:34	
6010C Met	Potassium, Dissolved	66.9J	ug/L	2500	12/06/16 19:34	
6010C Met	Sodium, Dissolved	82700	ug/L	1000	12/06/16 19:34	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10371787005	SILVA-GW-113016					
6010C Met	Vanadium, Dissolved	1.3J	ug/L	15.0	12/06/16 19:34	
6010C Met	Zinc, Dissolved	291	ug/L	20.0	12/06/16 19:34	
EPA 7470A	Mercury, Dissolved	0.047J	ug/L	0.20	12/04/16 17:21	
SM 2320B	Alkalinity, Total as CaCO3	161	mg/L	5.0	12/10/16 13:12	
SM 2540C	Total Dissolved Solids	258	mg/L	10.0	12/07/16 19:55	
EPA 300.0	Chloride	29.2	mg/L	1.2	12/01/16 23:41	
EPA 300.0	Nitrate as N	0.18	mg/L	0.10	12/01/16 23:41	
EPA 300.0	Sulfate	6.2	mg/L	1.2	12/01/16 23:41	
SM 5310C	Total Organic Carbon	0.60J	mg/L	1.0	12/09/16 00:31	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

Method: 6010C Met
Description: 6010C MET ICP, Dissolved
Client: UPRR_CH2M Hill
Date: December 14, 2016

General Information:

5 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: HACH 8146

Description: Iron, Ferrous

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for HACH 8146. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Asher-GW-113016 (Lab ID: 10371787003)
- Lashaw-GW-113016 (Lab ID: 10371787004)
- Marlow-GW-113016 (Lab ID: 10371787001)
- Marlow-GW-FD-113016 (Lab ID: 10371787002)
- SILVA-GW-113016 (Lab ID: 10371787005)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 449762

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10371787001,10371787003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2463196)
 - Chloride
 - Nitrate as N
 - Sulfate
- MS (Lab ID: 2463198)
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2463197)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2463199)
 - Nitrate as N
 - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: SM 3500-Cr D Modified

Description: Chromium, Hexavalent

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for SM 3500-Cr D Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- Asher-GW-113016 (Lab ID: 10371787003)
- Lashaw-GW-113016 (Lab ID: 10371787004)
- Marlow-GW-113016 (Lab ID: 10371787001)
- Marlow-GW-FD-113016 (Lab ID: 10371787002)
- SILVA-GW-113016 (Lab ID: 10371787005)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: December 14, 2016

General Information:

5 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

Sample: Marlow-GW-113016 **Lab ID: 10371787001** Collected: 11/30/16 10:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		12/06/16 13:26	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/06/16 13:26	74-85-1	
Methane	1.3J	ug/L	10.0	0.49	1		12/06/16 13:26	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/02/16 14:33	12/06/16 19:13	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:13	7440-36-0	
Arsenic, Dissolved	3.5J	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:13	7440-38-2	
Barium, Dissolved	27.7	ug/L	10.0	0.20	1	12/02/16 14:33	12/06/16 19:13	7440-39-3	
Beryllium, Dissolved	0.090J	ug/L	5.0	0.064	1	12/02/16 14:33	12/06/16 19:13	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/02/16 14:33	12/06/16 19:13	7440-43-9	
Calcium, Dissolved	47100	ug/L	500	15.8	1	12/02/16 14:33	12/06/16 19:13	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/02/16 14:33	12/06/16 19:13	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/02/16 14:33	12/06/16 19:13	7440-48-4	
Copper, Dissolved	15.0	ug/L	10.0	0.89	1	12/02/16 14:33	12/06/16 19:13	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/02/16 14:33	12/06/16 19:13	7439-89-6	
Lead, Dissolved	3.2J	ug/L	10.0	1.9	1	12/02/16 14:33	12/06/16 19:13	7439-92-1	
Magnesium, Dissolved	13600	ug/L	500	7.4	1	12/02/16 14:33	12/06/16 19:13	7439-95-4	
Manganese, Dissolved	0.52J	ug/L	5.0	0.33	1	12/02/16 14:33	12/06/16 19:13	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/02/16 14:33	12/06/16 19:13	7440-02-0	
Potassium, Dissolved	1240J	ug/L	2500	26.1	1	12/02/16 14:33	12/06/16 19:13	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/02/16 14:33	12/06/16 19:13	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/02/16 14:33	12/06/16 19:13	7440-22-4	
Sodium, Dissolved	12300	ug/L	1000	12.0	1	12/02/16 14:33	12/06/16 19:13	7440-23-5	
Thallium, Dissolved	4.0J	ug/L	20.0	3.8	1	12/02/16 14:33	12/06/16 19:13	7440-28-0	
Vanadium, Dissolved	8.7J	ug/L	15.0	0.39	1	12/02/16 14:33	12/06/16 19:13	7440-62-2	
Zinc, Dissolved	152	ug/L	20.0	1.4	1	12/02/16 14:33	12/06/16 19:13	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/02/16 14:13	12/04/16 17:02	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	166	mg/L	5.0	1.4	1		12/10/16 12:49		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	254	mg/L	10.0	5.0	1		12/03/16 15:41		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/06/16 11:50	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146							
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 11:57		H6
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	12.9	mg/L	1.2	0.10	1		12/01/16 20:19	16887-00-6	M1

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Marlow-GW-113016 **Lab ID: 10371787001** Collected: 11/30/16 10:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions									
Analytical Method: EPA 300.0									
Nitrate as N	3.9	mg/L	0.10	0.013	1		12/01/16 20:19	14797-55-8	M1
Sulfate	13.4	mg/L	1.2	0.16	1		12/01/16 20:19	14808-79-8	M1
Chromium, Hexavalent									
Analytical Method: SM 3500-Cr D Modified									
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/01/16 14:38		H1
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.91J	mg/L	1.0	0.20	1		12/08/16 22:46	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Marlow-GW-FD-113016 **Lab ID: 10371787002** Collected: 11/30/16 10:05 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/06/16 15:45	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/06/16 15:45	74-85-1	
Methane	1.3J	ug/L	10.0	0.49	1		12/06/16 15:45	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/02/16 14:33	12/06/16 19:26	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:26	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:26	7440-38-2	
Barium, Dissolved	27.5	ug/L	10.0	0.20	1	12/02/16 14:33	12/06/16 19:26	7440-39-3	
Beryllium, Dissolved	0.090J	ug/L	5.0	0.064	1	12/02/16 14:33	12/06/16 19:26	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/02/16 14:33	12/06/16 19:26	7440-43-9	
Calcium, Dissolved	46600	ug/L	500	15.8	1	12/02/16 14:33	12/06/16 19:26	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/02/16 14:33	12/06/16 19:26	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/02/16 14:33	12/06/16 19:26	7440-48-4	
Copper, Dissolved	35.5	ug/L	10.0	0.89	1	12/02/16 14:33	12/06/16 19:26	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/02/16 14:33	12/06/16 19:26	7439-89-6	
Lead, Dissolved	4.3J	ug/L	10.0	1.9	1	12/02/16 14:33	12/06/16 19:26	7439-92-1	
Magnesium, Dissolved	13500	ug/L	500	7.4	1	12/02/16 14:33	12/06/16 19:26	7439-95-4	
Manganese, Dissolved	0.46J	ug/L	5.0	0.33	1	12/02/16 14:33	12/06/16 19:26	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/02/16 14:33	12/06/16 19:26	7440-02-0	
Potassium, Dissolved	1250J	ug/L	2500	26.1	1	12/02/16 14:33	12/06/16 19:26	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/02/16 14:33	12/06/16 19:26	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/02/16 14:33	12/06/16 19:26	7440-22-4	
Sodium, Dissolved	11900	ug/L	1000	12.0	1	12/02/16 14:33	12/06/16 19:26	7440-23-5	
Thallium, Dissolved	4.0J	ug/L	20.0	3.8	1	12/02/16 14:33	12/06/16 19:26	7440-28-0	
Vanadium, Dissolved	8.5J	ug/L	15.0	0.39	1	12/02/16 14:33	12/06/16 19:26	7440-62-2	
Zinc, Dissolved	250	ug/L	20.0	1.4	1	12/02/16 14:33	12/06/16 19:26	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.041J	ug/L	0.20	0.031	1	12/02/16 14:13	12/04/16 17:14	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	165	mg/L	5.0	1.4	1		12/10/16 13:01		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	256	mg/L	10.0	5.0	1		12/03/16 15:41		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/06/16 11:53	18496-25-8	
Iron, Ferrous Analytical Method: HACH 8146									
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 12:01		H6
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	12.9	mg/L	1.2	0.10	1		12/01/16 21:22	16887-00-6	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Marlow-GW-FD-113016 **Lab ID: 10371787002** Collected: 11/30/16 10:05 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions									
Analytical Method: EPA 300.0									
Nitrate as N	3.9	mg/L	0.10	0.013	1		12/01/16 21:22	14797-55-8	
Sulfate	13.4	mg/L	1.2	0.16	1		12/01/16 21:22	14808-79-8	
Chromium, Hexavalent									
Analytical Method: SM 3500-Cr D Modified									
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/01/16 14:38		H1
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.67J	mg/L	1.0	0.20	1		12/08/16 23:25	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Asher-GW-113016 **Lab ID: 10371787003** Collected: 11/30/16 11:55 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/06/16 16:01	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/06/16 16:01	74-85-1	
Methane	1.2J	ug/L	10.0	0.49	1		12/06/16 16:01	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/02/16 14:33	12/06/16 19:29	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:29	7440-36-0	
Arsenic, Dissolved	4.1J	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:29	7440-38-2	
Barium, Dissolved	80.6	ug/L	10.0	0.20	1	12/02/16 14:33	12/06/16 19:29	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/02/16 14:33	12/06/16 19:29	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/02/16 14:33	12/06/16 19:29	7440-43-9	
Calcium, Dissolved	65500	ug/L	500	15.8	1	12/02/16 14:33	12/06/16 19:29	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/02/16 14:33	12/06/16 19:29	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/02/16 14:33	12/06/16 19:29	7440-48-4	
Copper, Dissolved	596	ug/L	10.0	0.89	1	12/02/16 14:33	12/06/16 19:29	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/02/16 14:33	12/06/16 19:29	7439-89-6	
Lead, Dissolved	3.4J	ug/L	10.0	1.9	1	12/02/16 14:33	12/06/16 19:29	7439-92-1	
Magnesium, Dissolved	19200	ug/L	500	7.4	1	12/02/16 14:33	12/06/16 19:29	7439-95-4	
Manganese, Dissolved	0.44J	ug/L	5.0	0.33	1	12/02/16 14:33	12/06/16 19:29	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/02/16 14:33	12/06/16 19:29	7440-02-0	
Potassium, Dissolved	1220J	ug/L	2500	26.1	1	12/02/16 14:33	12/06/16 19:29	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/02/16 14:33	12/06/16 19:29	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/02/16 14:33	12/06/16 19:29	7440-22-4	
Sodium, Dissolved	20800	ug/L	1000	12.0	1	12/02/16 14:33	12/06/16 19:29	7440-23-5	
Thallium, Dissolved	4.0J	ug/L	20.0	3.8	1	12/02/16 14:33	12/06/16 19:29	7440-28-0	
Vanadium, Dissolved	11.1J	ug/L	15.0	0.39	1	12/02/16 14:33	12/06/16 19:29	7440-62-2	
Zinc, Dissolved	31.9	ug/L	20.0	1.4	1	12/02/16 14:33	12/06/16 19:29	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.040J	ug/L	0.20	0.031	1	12/02/16 14:13	12/04/16 17:16	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	238	mg/L	5.0	1.4	1		12/10/16 13:04		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	345	mg/L	10.0	5.0	1		12/03/16 15:41		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/06/16 11:53	18496-25-8	
Iron, Ferrous Analytical Method: HACH 8146									
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 12:01		H6
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	7.8	mg/L	1.2	0.10	1		12/01/16 21:37	16887-00-6	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Asher-GW-113016 **Lab ID: 10371787003** Collected: 11/30/16 11:55 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions		Analytical Method: EPA 300.0							
Nitrate as N	7.6	mg/L	0.10	0.013	1		12/01/16 21:37	14797-55-8	M1
Sulfate	29.9	mg/L	1.2	0.16	1		12/01/16 21:37	14808-79-8	M1
Chromium, Hexavalent		Analytical Method: SM 3500-Cr D Modified							
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/01/16 14:38		H1
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.0	mg/L	1.0	0.20	1		12/09/16 00:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Lashaw-GW-113016 **Lab ID: 10371787004** Collected: 11/30/16 13:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/06/16 16:09	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/06/16 16:09	74-85-1	
Methane	1.1J	ug/L	10.0	0.49	1		12/06/16 16:09	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/02/16 14:33	12/06/16 19:32	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:32	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:32	7440-38-2	
Barium, Dissolved	9.5J	ug/L	10.0	0.20	1	12/02/16 14:33	12/06/16 19:32	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/02/16 14:33	12/06/16 19:32	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/02/16 14:33	12/06/16 19:32	7440-43-9	
Calcium, Dissolved	26700	ug/L	500	15.8	1	12/02/16 14:33	12/06/16 19:32	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/02/16 14:33	12/06/16 19:32	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/02/16 14:33	12/06/16 19:32	7440-48-4	
Copper, Dissolved	4.1J	ug/L	10.0	0.89	1	12/02/16 14:33	12/06/16 19:32	7440-50-8	
Iron, Dissolved	19.7J	ug/L	50.0	18.0	1	12/02/16 14:33	12/06/16 19:32	7439-89-6	
Lead, Dissolved	3.4J	ug/L	10.0	1.9	1	12/02/16 14:33	12/06/16 19:32	7439-92-1	
Magnesium, Dissolved	12900	ug/L	500	7.4	1	12/02/16 14:33	12/06/16 19:32	7439-95-4	
Manganese, Dissolved	1.2J	ug/L	5.0	0.33	1	12/02/16 14:33	12/06/16 19:32	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/02/16 14:33	12/06/16 19:32	7440-02-0	
Potassium, Dissolved	3780	ug/L	2500	26.1	1	12/02/16 14:33	12/06/16 19:32	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/02/16 14:33	12/06/16 19:32	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/02/16 14:33	12/06/16 19:32	7440-22-4	
Sodium, Dissolved	15700	ug/L	1000	12.0	1	12/02/16 14:33	12/06/16 19:32	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/02/16 14:33	12/06/16 19:32	7440-28-0	
Vanadium, Dissolved	11.4J	ug/L	15.0	0.39	1	12/02/16 14:33	12/06/16 19:32	7440-62-2	
Zinc, Dissolved	17.4J	ug/L	20.0	1.4	1	12/02/16 14:33	12/06/16 19:32	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.035J	ug/L	0.20	0.031	1	12/02/16 14:13	12/04/16 17:18	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	152	mg/L	5.0	1.4	1		12/10/16 13:08		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	191	mg/L	10.0	5.0	1		12/07/16 19:55		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/06/16 11:54	18496-25-8	
Iron, Ferrous Analytical Method: HACH 8146									
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 12:02		H6
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.8	mg/L	1.2	0.10	1		12/01/16 23:26	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: Lashaw-GW-113016 **Lab ID: 10371787004** Collected: 11/30/16 13:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions									
Analytical Method: EPA 300.0									
Nitrate as N	2.4	mg/L	0.10	0.013	1		12/01/16 23:26	14797-55-8	
Sulfate	5.9	mg/L	1.2	0.16	1		12/01/16 23:26	14808-79-8	
Chromium, Hexavalent									
Analytical Method: SM 3500-Cr D Modified									
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/01/16 14:38		H1
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.41J	mg/L	1.0	0.20	1		12/09/16 00:18	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: SILVA-GW-113016 **Lab ID: 10371787005** Collected: 11/30/16 14:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/06/16 16:18	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/06/16 16:18	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		12/06/16 16:18	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/02/16 14:33	12/06/16 19:34	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:34	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/02/16 14:33	12/06/16 19:34	7440-38-2	
Barium, Dissolved	0.29J	ug/L	10.0	0.20	1	12/02/16 14:33	12/06/16 19:34	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/02/16 14:33	12/06/16 19:34	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/02/16 14:33	12/06/16 19:34	7440-43-9	
Calcium, Dissolved	83.6J	ug/L	500	15.8	1	12/02/16 14:33	12/06/16 19:34	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/02/16 14:33	12/06/16 19:34	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/02/16 14:33	12/06/16 19:34	7440-48-4	
Copper, Dissolved	273	ug/L	10.0	0.89	1	12/02/16 14:33	12/06/16 19:34	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/02/16 14:33	12/06/16 19:34	7439-89-6	
Lead, Dissolved	9.2J	ug/L	10.0	1.9	1	12/02/16 14:33	12/06/16 19:34	7439-92-1	
Magnesium, Dissolved	1350	ug/L	500	7.4	1	12/02/16 14:33	12/06/16 19:34	7439-95-4	
Manganese, Dissolved	7.2	ug/L	5.0	0.33	1	12/02/16 14:33	12/06/16 19:34	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/02/16 14:33	12/06/16 19:34	7440-02-0	
Potassium, Dissolved	66.9J	ug/L	2500	26.1	1	12/02/16 14:33	12/06/16 19:34	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/02/16 14:33	12/06/16 19:34	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/02/16 14:33	12/06/16 19:34	7440-22-4	
Sodium, Dissolved	82700	ug/L	1000	12.0	1	12/02/16 14:33	12/06/16 19:34	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/02/16 14:33	12/06/16 19:34	7440-28-0	
Vanadium, Dissolved	1.3J	ug/L	15.0	0.39	1	12/02/16 14:33	12/06/16 19:34	7440-62-2	
Zinc, Dissolved	291	ug/L	20.0	1.4	1	12/02/16 14:33	12/06/16 19:34	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	0.047J	ug/L	0.20	0.031	1	12/02/16 14:13	12/04/16 17:21	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	161	mg/L	5.0	1.4	1		12/10/16 13:12		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	258	mg/L	10.0	5.0	1		12/07/16 19:55		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/06/16 11:54	18496-25-8	
Iron, Ferrous Analytical Method: HACH 8146									
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 12:03		H6
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	29.2	mg/L	1.2	0.10	1		12/01/16 23:41	16887-00-6	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Sample: SILVA-GW-113016 **Lab ID: 10371787005** Collected: 11/30/16 14:00 Received: 12/01/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions									
Analytical Method: EPA 300.0									
Nitrate as N	0.18	mg/L	0.10	0.013	1		12/01/16 23:41	14797-55-8	
Sulfate	6.2	mg/L	1.2	0.16	1		12/01/16 23:41	14808-79-8	
Chromium, Hexavalent									
Analytical Method: SM 3500-Cr D Modified									
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/01/16 14:38		H1
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.60J	mg/L	1.0	0.20	1		12/09/16 00:31	7440-44-0	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

QC Batch: 450425 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 2466265 Matrix: Water
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/06/16 12:20	
Ethene	ug/L	<0.77	10.0	0.77	12/06/16 12:20	
Methane	ug/L	1.6J	10.0	0.49	12/06/16 12:20	

LABORATORY CONTROL SAMPLE & LCSD: 2466266

Parameter	Units	2466267		LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result						
Ethane	ug/L	114	98.1	86	101	85-115	16	20	
Ethene	ug/L	106	91.9	87	101	85-115	15	20	
Methane	ug/L	60.7	52.2	86	100	85-115	15	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2467458

Parameter	Units	10371787001		2467459		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					
Ethane	ug/L	<0.87	114	184	117	162	103	35-150	45	20 M1,R1
Ethene	ug/L	<0.77	106	166	108	156	102	36-150	42	20 M1,R1
Methane	ug/L	1.3J	60.7	100	61.7	163	100	30-150	48	20 M1,R1

SAMPLE DUPLICATE: 2467460

Parameter	Units	10371787002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	1.3J	1.5J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 451554

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 2472471

Matrix: Water

Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/04/16 16:49	

LABORATORY CONTROL SAMPLE: 2472472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472473 2472474

Parameter	Units	2472473		2472474		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10371787001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury, Dissolved	ug/L	<0.031	5	5	5.0	5.1	100	101	80-120	1	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 451491 Analysis Method: 6010C Met
 QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
 Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 2472085 Matrix: Water
 Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/06/16 18:55	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/06/16 18:55	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/06/16 18:55	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	12/06/16 18:55	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/06/16 18:55	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/06/16 18:55	
Calcium, Dissolved	ug/L	<15.8	500	15.8	12/06/16 18:55	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/06/16 18:55	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/06/16 18:55	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/06/16 18:55	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/06/16 18:55	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/06/16 18:55	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/06/16 18:55	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/06/16 18:55	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/06/16 18:55	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/06/16 18:55	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/06/16 18:55	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/06/16 18:55	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	12/06/16 18:55	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/06/16 18:55	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/06/16 18:55	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/06/16 18:55	

LABORATORY CONTROL SAMPLE: 2472086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20000	100	80-120	
Antimony, Dissolved	ug/L	1000	956	96	80-120	
Arsenic, Dissolved	ug/L	1000	978	98	80-120	
Barium, Dissolved	ug/L	1000	967	97	80-120	
Beryllium, Dissolved	ug/L	1000	967	97	80-120	
Cadmium, Dissolved	ug/L	1000	967	97	80-120	
Calcium, Dissolved	ug/L	20000	18600	93	80-120	
Chromium, Dissolved	ug/L	1000	945	95	80-120	
Cobalt, Dissolved	ug/L	1000	955	96	80-120	
Copper, Dissolved	ug/L	1000	942	94	80-120	
Iron, Dissolved	ug/L	20000	18800	94	80-120	
Lead, Dissolved	ug/L	1000	966	97	80-120	
Magnesium, Dissolved	ug/L	20000	19000	95	80-120	
Manganese, Dissolved	ug/L	1000	954	95	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

LABORATORY CONTROL SAMPLE: 2472086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	953	95	80-120	
Potassium, Dissolved	ug/L	20000	18700	94	80-120	
Selenium, Dissolved	ug/L	1000	1020	102	80-120	
Silver, Dissolved	ug/L	500	470	94	80-120	
Sodium, Dissolved	ug/L	20000	18600	93	80-120	
Thallium, Dissolved	ug/L	1000	929	93	80-120	
Vanadium, Dissolved	ug/L	1000	934	93	80-120	
Zinc, Dissolved	ug/L	1000	962	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472087 2472088

Parameter	Units	10371787001		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Aluminum, Dissolved	ug/L	<13.5	20000	20000	20300	20500	101	103	75-125	1	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	971	980	97	98	75-125	1	20	
Arsenic, Dissolved	ug/L	3.5J	1000	1000	995	1000	99	100	75-125	1	20	
Barium, Dissolved	ug/L	27.7	1000	1000	998	1010	97	98	75-125	1	20	
Beryllium, Dissolved	ug/L	0.090J	1000	1000	982	995	98	100	75-125	1	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	977	988	98	99	75-125	1	20	
Calcium, Dissolved	ug/L	47100	20000	20000	65500	66300	92	96	75-125	1	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	952	962	95	96	75-125	1	20	
Cobalt, Dissolved	ug/L	<0.51	1000	1000	946	955	95	96	75-125	1	20	
Copper, Dissolved	ug/L	15.0	1000	1000	973	984	96	97	75-125	1	20	
Iron, Dissolved	ug/L	<18.0	20000	20000	18900	19200	95	96	75-125	1	20	
Lead, Dissolved	ug/L	3.2J	1000	1000	964	974	96	97	75-125	1	20	
Magnesium, Dissolved	ug/L	13600	20000	20000	32800	33200	96	98	75-125	1	20	
Manganese, Dissolved	ug/L	0.52J	1000	1000	955	965	95	96	75-125	1	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	935	947	94	95	75-125	1	20	
Potassium, Dissolved	ug/L	1240J	20000	20000	20700	20900	97	98	75-125	1	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1010	1040	101	104	75-125	3	20	
Silver, Dissolved	ug/L	<0.28	500	500	477	482	95	96	75-125	1	20	
Sodium, Dissolved	ug/L	12300	20000	20000	31600	32100	96	99	75-125	2	20	
Thallium, Dissolved	ug/L	4.0J	1000	1000	922	939	92	94	75-125	2	20	
Vanadium, Dissolved	ug/L	8.7J	1000	1000	958	965	95	96	75-125	1	20	
Zinc, Dissolved	ug/L	152	1000	1000	1090	1100	94	95	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 451158 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 2470349 Matrix: Water
 Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	12/10/16 10:05	

LABORATORY CONTROL SAMPLE & LCSD: 2470350 2470351

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	42.0	42.1	105	105	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2470352 2470353

Parameter	Units	10371828002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	946	40	40	986	988	99	103	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2470354 2470355

Parameter	Units	10371787001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	166	40	40	208	211	103	110	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 450059

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10371787001, 10371787002, 10371787003

METHOD BLANK: 2464803

Matrix: Water

Associated Lab Samples: 10371787001, 10371787002, 10371787003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	12/03/16 15:41	

LABORATORY CONTROL SAMPLE: 2464804

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	972	97	80-120	

SAMPLE DUPLICATE: 2464805

Parameter	Units	10371665001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3290	3400	3	10	

SAMPLE DUPLICATE: 2464806

Parameter	Units	10371787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	254	254	0	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 450723

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10371787004, 10371787005

METHOD BLANK: 2467891

Matrix: Water

Associated Lab Samples: 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	12/07/16 19:55	

LABORATORY CONTROL SAMPLE: 2467892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	980	98	80-120	

SAMPLE DUPLICATE: 2467893

Parameter	Units	10372277001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1620	1590	2	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

QC Batch: 69296 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 288804 Matrix: Water
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/06/16 11:47	

LABORATORY CONTROL SAMPLE: 288805

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.20	100	90-110	

MATRIX SPIKE SAMPLE: 288807

Parameter	Units	10371787001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.0050	.2	0.19	95	75-125	

SAMPLE DUPLICATE: 288806

Parameter	Units	10371787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.0050	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

QC Batch: 244160 Analysis Method: HACH 8146
QC Batch Method: HACH 8146 Analysis Description: Iron, Ferrous
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 1445896 Matrix: Water
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

METHOD BLANK: 1445903 Matrix: Water
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

METHOD BLANK: 1445904 Matrix: Water
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

LABORATORY CONTROL SAMPLE: 1445897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.6	0.51	85	80-120	

LABORATORY CONTROL SAMPLE: 1446029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.085J	85	80-120	

LABORATORY CONTROL SAMPLE: 1446030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.082J	82	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

LABORATORY CONTROL SAMPLE: 1446031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.094	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445898 1445899

Parameter	Units	10371787001		1445898		1445899		% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Iron, Ferrous	mg/L	<0.028	.6	.6	0.69	0.68	116	114	80-120	1	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 449762 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 2463194 Matrix: Water
 Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/01/16 19:41	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/01/16 19:41	
Sulfate	mg/L	<0.16	1.2	0.16	12/01/16 19:41	

LABORATORY CONTROL SAMPLE: 2463195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	103	90-110	
Nitrate as N	mg/L	1	0.97	97	90-110	
Sulfate	mg/L	12.5	12.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2463196 2463197

Parameter	Units	10371787001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	12.9	12.5	12.5	23.4	23.6	84	85	90-110	0	20	M1
Nitrate as N	mg/L	3.9	1	1	4.3	4.3	42	44	90-110	1	20	M1
Sulfate	mg/L	13.4	12.5	12.5	24.1	24.3	86	87	90-110	0	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2463198 2463199

Parameter	Units	10371787003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	7.8	12.5	12.5	19.1	19.3	91	92	90-110	1	20	
Nitrate as N	mg/L	7.6	1	1	7.4	7.5	-17	-10	90-110	1	20	M1
Sulfate	mg/L	29.9	12.5	12.5	38.0	38.4	65	68	90-110	1	20	M1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

QC Batch: 449754

Analysis Method: SM 3500-Cr D Modified

QC Batch Method: SM 3500-Cr D Modified

Analysis Description: Chromium, Hexavalent by 3500

Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 2463165

Matrix: Water

Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0030	0.010	0.0030	12/01/16 14:38	

LABORATORY CONTROL SAMPLE: 2463166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.2	0.20	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2463167 2463168

Parameter	Units	2463167		2463168		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10371787001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Chromium, Hexavalent	mg/L	<0.0030	.2	.2	0.20	0.20	102	102	85-115	0	20 H1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

QC Batch: 101708 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

METHOD BLANK: 404432 Matrix: Water
Associated Lab Samples: 10371787001, 10371787002, 10371787003, 10371787004, 10371787005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/08/16 21:26	

LABORATORY CONTROL SAMPLE: 404433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.6	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 404434 404435

Parameter	Units	10371847001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Total Organic Carbon	mg/L	7.5	25	25	33.4	34.3	104	107	80-120	2	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 404436 404437

Parameter	Units	10371787001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Total Organic Carbon	mg/L	0.91J	25	25	27.3	27.8	106	107	80-120	2	20		

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay
PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H1 Analysis conducted outside the recognized method holding time.
H6 Analysis initiated outside of the 15 minute EPA required holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10371787

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10371787001	Marlow-GW-113016	RSK 175	450425		
10371787002	Marlow-GW-FD-113016	RSK 175	450425		
10371787003	Asher-GW-113016	RSK 175	450425		
10371787004	Lashaw-GW-113016	RSK 175	450425		
10371787005	SILVA-GW-113016	RSK 175	450425		
10371787001	Marlow-GW-113016	EPA 3010	451491	6010C Met	451517
10371787002	Marlow-GW-FD-113016	EPA 3010	451491	6010C Met	451517
10371787003	Asher-GW-113016	EPA 3010	451491	6010C Met	451517
10371787004	Lashaw-GW-113016	EPA 3010	451491	6010C Met	451517
10371787005	SILVA-GW-113016	EPA 3010	451491	6010C Met	451517
10371787001	Marlow-GW-113016	EPA 7470A	451554	EPA 7470A	451612
10371787002	Marlow-GW-FD-113016	EPA 7470A	451554	EPA 7470A	451612
10371787003	Asher-GW-113016	EPA 7470A	451554	EPA 7470A	451612
10371787004	Lashaw-GW-113016	EPA 7470A	451554	EPA 7470A	451612
10371787005	SILVA-GW-113016	EPA 7470A	451554	EPA 7470A	451612
10371787001	Marlow-GW-113016	SM 2320B	451158		
10371787002	Marlow-GW-FD-113016	SM 2320B	451158		
10371787003	Asher-GW-113016	SM 2320B	451158		
10371787004	Lashaw-GW-113016	SM 2320B	451158		
10371787005	SILVA-GW-113016	SM 2320B	451158		
10371787001	Marlow-GW-113016	SM 2540C	450059		
10371787002	Marlow-GW-FD-113016	SM 2540C	450059		
10371787003	Asher-GW-113016	SM 2540C	450059		
10371787004	Lashaw-GW-113016	SM 2540C	450723		
10371787005	SILVA-GW-113016	SM 2540C	450723		
10371787001	Marlow-GW-113016	SM 4500-S-2 D	69296		
10371787002	Marlow-GW-FD-113016	SM 4500-S-2 D	69296		
10371787003	Asher-GW-113016	SM 4500-S-2 D	69296		
10371787004	Lashaw-GW-113016	SM 4500-S-2 D	69296		
10371787005	SILVA-GW-113016	SM 4500-S-2 D	69296		
10371787001	Marlow-GW-113016	HACH 8146	244160		
10371787002	Marlow-GW-FD-113016	HACH 8146	244160		
10371787003	Asher-GW-113016	HACH 8146	244160		
10371787004	Lashaw-GW-113016	HACH 8146	244160		
10371787005	SILVA-GW-113016	HACH 8146	244160		
10371787001	Marlow-GW-113016	EPA 300.0	449762		
10371787002	Marlow-GW-FD-113016	EPA 300.0	449762		
10371787003	Asher-GW-113016	EPA 300.0	449762		
10371787004	Lashaw-GW-113016	EPA 300.0	449762		
10371787005	SILVA-GW-113016	EPA 300.0	449762		
10371787001	Marlow-GW-113016	SM 3500-Cr D Modified	449754		
10371787002	Marlow-GW-FD-113016	SM 3500-Cr D Modified	449754		
10371787003	Asher-GW-113016	SM 3500-Cr D Modified	449754		
10371787004	Lashaw-GW-113016	SM 3500-Cr D Modified	449754		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371787

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10371787005	SILVA-GW-113016	SM 3500-Cr D Modified	449754		
10371787001	Marlow-GW-113016	SM 5310C	101708		
10371787002	Marlow-GW-FD-113016	SM 5310C	101708		
10371787003	Asher-GW-113016	SM 5310C	101708		
10371787004	Lashaw-GW-113016	SM 5310C	101708		
10371787005	SILVA-GW-113016	SM 5310C	101708		

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Document Revised: 05Jan2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill Project #: _____

WO#: 10371787

Optional: Proj. Due Date: _____ Proj. Name: _____

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____
 Tracking Number: 709633709744/9733/9711
 Custody Seal on Cooler/Box Present? Yes 5/10/16 Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 B88A912167504 B88A0143310098
 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read (°C): 1.8/0.3/5.1 Cooler Temp Corrected (°C): 1.8/0.3/5.1 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: True Date and Initials of Person Examining Contents: _____

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	Yes	No	N/A	COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6.
Rush Turn Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.
-Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample # <u>7/7</u> <u>1-5</u>
Per method, VOA pH is checked after analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	14.
3 Trip Blanks Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: Mark Ochsner / Brad Date/Time: 11/30/16

Comments/Resolution: Per Mark WA state certification is not needed for BOD, Ferrous Iron

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>1300</u> Temp: <u>1.8/0.3/5.1</u>	Corrected Temp: <u>1.8/0.3/5.1</u>
Time: <u>1318</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

or Sulfide
 Per Brad 12/02/16 - BOD is not required.

Project Manager Review: JENNI GROSS Date: 12/01/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec Projec

WO#: 2046692

PM: ADC Due Date: 12/14/16
CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used:
 Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-03-16 MB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Chain of Custody

WO#: 1279900

PM: CLJ Due Date: 12/15/16
 CLIENT: PACE MPLS



Workorder: 10371787

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 12/1/2016 Results Requested By: 12/15/2016


Report To		Subcontract To				Requested Analysis															
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical Virginia MN 315 Chestnut Street Virginia, MN 55792 Phone (218)742-1042																			
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers					5310 TOC	LAB USE ONLY									
						H2SO4															
1	Marlow-GW-113016	RQS	11/30/2016 10:00	10371787001	Water	9					X	MS/MSD									
2	Marlow-GW-FD-113016	PS	11/30/2016 10:05	10371787002	Water	3					X										
3	Asher-GW-113016	PS	11/30/2016 11:55	10371787003	Water	3					X										
4	Lashaw-GW-113016	PS	11/30/2016 13:00	10371787004	Water	3					X										
5	SILVA-GW-113016	PS	11/30/2016 14:00	10371787005	Water	3					X										
Transfers											Comments										
Released By	Date/Time	Received By	Date/Time																		
<i>Anna Asp</i> Pace MN	12/2/16 9:15	<i>[Signature]</i>	12/5/16 18:20																		
<i>[Signature]</i>	12/5/16 23:00	<i>[Signature]</i>	12-6-16-8:00																		
Cooler Temperature on Receipt 22°C											Custody Seal <input checked="" type="checkbox"/> or N			Received on Ice <input checked="" type="checkbox"/> or N			Samples Intact <input checked="" type="checkbox"/> or N				

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Client Name: Pace MIV Project #: _____

WO#: 1279900



1279900

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: Haz Mat Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.8 Cooler Temp Corrected °C: 2.2 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: 0.4 Date and Initials of Person Examining Contents: JPC R/S/16

Comments: by B 12-6-16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrin Green

Date: 12/7/16

Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302



Project #: **WO# : 40143143**

Client Name: Pau MN

Courier: Fed Ex UPS Client Pace Other: NAHCO

Tracking #: 1229178-2

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used: SB47 Type of Ice: Wet Blue Dry None

Cooler Temperature: Uncorr: 4.5 / Corr: 4.5 Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.



Person examining contents:
Date: 12/8/16
Initials: TE

		Comments:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4. <u>IRWD</u>
Samples Arrived within Hold Time:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5. <u>12/8/16</u>
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
-Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #/ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Ca Date: 12/8/16

December 16, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

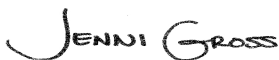
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 02, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):
E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Commonwealth of Virginia (TNI): 480246

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Green Bay Certification IDs

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10371888001	Lang-GW-120116	Water	12/01/16 10:00	12/02/16 10:00
10371888002	Reed-(W-30)-GW-120116	Water	12/01/16 09:05	12/02/16 10:00
10371888003	Trip Blank	Water	12/01/16 00:00	12/02/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
10371888001	Lang-GW-120116	RSK 175	DR1	3	PASI-M		
		6010C Met	DM, IP	22	PASI-M		
		EPA 7470A	LMW	1	PASI-M		
		EPA 8260B	DJB	83	PASI-M		
		SM 2320B	JFP	1	PASI-M		
		SM 2540C	JFP	1	PASI-M		
		SM 4500-S-2 D	CN	1	PASI-N		
		HACH 8146	DEY	1	PASI-G		
		EPA 300.0	KEO	3	PASI-M		
		SM 3500-Cr D Modified	KEO	1	PASI-M		
		SM 5310C	CRE	1	PASI-V		
		10371888002	Reed-(W-30)-GW-120116	RSK 175	DR1	3	PASI-M
				6010C Met	IP	22	PASI-M
EPA 7470A	LMW			1	PASI-M		
EPA 8260B	DJB			83	PASI-M		
SM 2320B	JFP			1	PASI-M		
SM 2540C	JFP			1	PASI-M		
SM 4500-S-2 D	CN			1	PASI-N		
HACH 8146	DEY			1	PASI-G		
EPA 300.0	KEO			3	PASI-M		
SM 3500-Cr D Modified	KEO			1	PASI-M		
SM 5310C	CRE			1	PASI-V		
10371888003	Trip Blank	EPA 8260B	DJB	83	PASI-M		

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10371888001	Lang-GW-120116					
RSK 175	Methane	3.1J	ug/L	10.0	12/06/16 20:17	
6010C Met	Calcium, Dissolved	69.5J	ug/L	500	12/08/16 19:41	
6010C Met	Copper, Dissolved	10.3	ug/L	10.0	12/08/16 19:41	
6010C Met	Magnesium, Dissolved	45.9J	ug/L	500	12/08/16 19:41	
6010C Met	Potassium, Dissolved	520J	ug/L	2500	12/08/16 19:41	
6010C Met	Sodium, Dissolved	90600	ug/L	1000	12/09/16 10:32	
6010C Met	Vanadium, Dissolved	3.5J	ug/L	15.0	12/08/16 19:41	
6010C Met	Zinc, Dissolved	3.5J	ug/L	20.0	12/08/16 19:41	
EPA 8260B	Methylene Chloride	2.2J	ug/L	4.0	12/03/16 06:24	
SM 2320B	Alkalinity, Total as CaCO3	197	mg/L	5.0	12/10/16 10:50	
SM 2540C	Total Dissolved Solids	240	mg/L	10.0	12/07/16 19:55	
EPA 300.0	Chloride	2.1	mg/L	1.2	12/02/16 18:44	
EPA 300.0	Nitrate as N	0.44	mg/L	0.10	12/02/16 18:44	
EPA 300.0	Sulfate	2.3	mg/L	1.2	12/02/16 18:44	
SM 5310C	Total Organic Carbon	0.35J	mg/L	1.0	12/09/16 00:57	
10371888002	Reed-(W-30)-GW-120116					
RSK 175	Methane	3.4J	ug/L	10.0	12/07/16 13:21	
6010C Met	Barium, Dissolved	44.9	ug/L	10.0	12/08/16 19:44	
6010C Met	Calcium, Dissolved	27900	ug/L	500	12/08/16 19:44	
6010C Met	Copper, Dissolved	1.5J	ug/L	10.0	12/08/16 19:44	
6010C Met	Iron, Dissolved	50.7	ug/L	50.0	12/08/16 19:44	
6010C Met	Magnesium, Dissolved	10800	ug/L	500	12/08/16 19:44	
6010C Met	Manganese, Dissolved	1.5J	ug/L	5.0	12/08/16 19:44	
6010C Met	Potassium, Dissolved	3380	ug/L	2500	12/08/16 19:44	
6010C Met	Sodium, Dissolved	14200	ug/L	1000	12/08/16 19:44	
6010C Met	Vanadium, Dissolved	22.3	ug/L	15.0	12/08/16 19:44	
6010C Met	Zinc, Dissolved	10.1J	ug/L	20.0	12/08/16 19:44	
SM 2320B	Alkalinity, Total as CaCO3	138	mg/L	5.0	12/10/16 10:56	
SM 2540C	Total Dissolved Solids	178	mg/L	10.0	12/07/16 19:55	
EPA 300.0	Chloride	1.4	mg/L	1.2	12/02/16 20:32	
EPA 300.0	Nitrate as N	0.24	mg/L	0.10	12/02/16 20:32	
EPA 300.0	Sulfate	7.0	mg/L	1.2	12/02/16 20:32	
SM 5310C	Total Organic Carbon	0.28J	mg/L	1.0	12/09/16 01:10	
10371888003	Trip Blank					
EPA 8260B	Methylene Chloride	0.40J	ug/L	4.0	12/03/16 03:50	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 450503

R1: RPD value was outside control limits.

- DUP (Lab ID: 2467482)
- Methane

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 449979

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 69514

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2046869001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 289873)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: HACH 8146

Description: Iron, Ferrous

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for HACH 8146. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Lang-GW-120116 (Lab ID: 10371888001)
- Reed-(W-30)-GW-120116 (Lab ID: 10371888002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: SM 3500-Cr D Modified

Description: Chromium, Hexavalent

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for SM 3500-Cr D Modified. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- Lang-GW-120116 (Lab ID: 10371888001)

H3: Sample was received or analysis requested beyond the recognized method holding time.

- Reed-(W-30)-GW-120116 (Lab ID: 10371888002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: December 16, 2016

General Information:

2 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Lang-GW-120116 **Lab ID: 10371888001** Collected: 12/01/16 10:00 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		12/06/16 20:17	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/06/16 20:17	74-85-1	
Methane	3.1J	ug/L	10.0	0.49	1		12/06/16 20:17	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/06/16 06:00	12/08/16 19:41	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/06/16 06:00	12/08/16 19:41	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/06/16 06:00	12/08/16 19:41	7440-38-2	
Barium, Dissolved	<0.20	ug/L	10.0	0.20	1	12/06/16 06:00	12/08/16 19:41	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/06/16 06:00	12/08/16 19:41	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/06/16 06:00	12/08/16 19:41	7440-43-9	
Calcium, Dissolved	69.5J	ug/L	500	15.8	1	12/06/16 06:00	12/08/16 19:41	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/06/16 06:00	12/08/16 19:41	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/06/16 06:00	12/08/16 19:41	7440-48-4	
Copper, Dissolved	10.3	ug/L	10.0	0.89	1	12/06/16 06:00	12/08/16 19:41	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/06/16 06:00	12/08/16 19:41	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/06/16 06:00	12/08/16 19:41	7439-92-1	
Magnesium, Dissolved	45.9J	ug/L	500	7.4	1	12/06/16 06:00	12/08/16 19:41	7439-95-4	
Manganese, Dissolved	<0.33	ug/L	5.0	0.33	1	12/06/16 06:00	12/08/16 19:41	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/06/16 06:00	12/08/16 19:41	7440-02-0	
Potassium, Dissolved	520J	ug/L	2500	26.1	1	12/06/16 06:00	12/08/16 19:41	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/06/16 06:00	12/08/16 19:41	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/06/16 06:00	12/08/16 19:41	7440-22-4	
Sodium, Dissolved	90600	ug/L	1000	12.0	1	12/06/16 06:00	12/09/16 10:32	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/06/16 06:00	12/08/16 19:41	7440-28-0	
Vanadium, Dissolved	3.5J	ug/L	15.0	0.39	1	12/06/16 06:00	12/08/16 19:41	7440-62-2	
Zinc, Dissolved	3.5J	ug/L	20.0	1.4	1	12/06/16 06:00	12/08/16 19:41	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/08/16 08:39	12/08/16 17:05	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/03/16 06:24	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/03/16 06:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/03/16 06:24	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/03/16 06:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/03/16 06:24	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/03/16 06:24	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/03/16 06:24	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/03/16 06:24	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/03/16 06:24	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/03/16 06:24	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/03/16 06:24	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/03/16 06:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/03/16 06:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/03/16 06:24	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Lang-GW-120116 Lab ID: 10371888001 Collected: 12/01/16 10:00 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/03/16 06:24	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/03/16 06:24	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/03/16 06:24	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/03/16 06:24	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/03/16 06:24	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/03/16 06:24	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/03/16 06:24	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/03/16 06:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/03/16 06:24	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/03/16 06:24	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/03/16 06:24	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/03/16 06:24	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/03/16 06:24	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/03/16 06:24	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/03/16 06:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/03/16 06:24	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/03/16 06:24	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/03/16 06:24	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/03/16 06:24	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/03/16 06:24	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/03/16 06:24	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/03/16 06:24	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/03/16 06:24	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/03/16 06:24	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/03/16 06:24	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/03/16 06:24	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/03/16 06:24	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/03/16 06:24	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/03/16 06:24	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/03/16 06:24	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/03/16 06:24	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/03/16 06:24	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/03/16 06:24	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/03/16 06:24	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/03/16 06:24	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/03/16 06:24	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/03/16 06:24	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/03/16 06:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/03/16 06:24	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/03/16 06:24	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/03/16 06:24	1634-04-4	
Methylene Chloride	2.2J	ug/L	4.0	0.097	1		12/03/16 06:24	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/03/16 06:24	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/03/16 06:24	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/03/16 06:24	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/03/16 06:24	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Lang-GW-120116 **Lab ID: 10371888001** Collected: 12/01/16 10:00 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level									
Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/03/16 06:24	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/03/16 06:24	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/03/16 06:24	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/03/16 06:24	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/03/16 06:24	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/03/16 06:24	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/03/16 06:24	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/03/16 06:24	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/03/16 06:24	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/03/16 06:24	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/03/16 06:24	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/03/16 06:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/03/16 06:24	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/03/16 06:24	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/03/16 06:24	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/03/16 06:24	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/03/16 06:24	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/03/16 06:24	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/03/16 06:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/03/16 06:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		12/03/16 06:24	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/03/16 06:24	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/03/16 06:24	460-00-4	
2320B Alkalinity									
Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	197	mg/L	5.0	1.4	1		12/10/16 10:50		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Total Dissolved Solids	240	mg/L	10.0	5.0	1		12/07/16 19:55		
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/08/16 15:28	18496-25-8	
Iron, Ferrous									
Analytical Method: HACH 8146									
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 12:04		H6
300.0 IC Anions									
Analytical Method: EPA 300.0									
Chloride	2.1	mg/L	1.2	0.10	1		12/02/16 18:44	16887-00-6	
Nitrate as N	0.44	mg/L	0.10	0.013	1		12/02/16 18:44	14797-55-8	
Sulfate	2.3	mg/L	1.2	0.16	1		12/02/16 18:44	14808-79-8	
Chromium, Hexavalent									
Analytical Method: SM 3500-Cr D Modified									
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/02/16 12:04		H1

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Lang-GW-120116 **Lab ID: 10371888001** Collected: 12/01/16 10:00 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.35J	mg/L	1.0	0.20	1		12/09/16 00:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Reed-(W-30)-GW-120116 **Lab ID: 10371888002** Collected: 12/01/16 09:05 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/07/16 13:21	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/07/16 13:21	74-85-1	
Methane	3.4J	ug/L	10.0	0.49	1		12/07/16 13:21	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/06/16 06:00	12/08/16 19:44	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/06/16 06:00	12/08/16 19:44	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/06/16 06:00	12/08/16 19:44	7440-38-2	
Barium, Dissolved	44.9	ug/L	10.0	0.20	1	12/06/16 06:00	12/08/16 19:44	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/06/16 06:00	12/08/16 19:44	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/06/16 06:00	12/08/16 19:44	7440-43-9	
Calcium, Dissolved	27900	ug/L	500	15.8	1	12/06/16 06:00	12/08/16 19:44	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/06/16 06:00	12/08/16 19:44	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/06/16 06:00	12/08/16 19:44	7440-48-4	
Copper, Dissolved	1.5J	ug/L	10.0	0.89	1	12/06/16 06:00	12/08/16 19:44	7440-50-8	
Iron, Dissolved	50.7	ug/L	50.0	18.0	1	12/06/16 06:00	12/08/16 19:44	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/06/16 06:00	12/08/16 19:44	7439-92-1	
Magnesium, Dissolved	10800	ug/L	500	7.4	1	12/06/16 06:00	12/08/16 19:44	7439-95-4	
Manganese, Dissolved	1.5J	ug/L	5.0	0.33	1	12/06/16 06:00	12/08/16 19:44	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/06/16 06:00	12/08/16 19:44	7440-02-0	
Potassium, Dissolved	3380	ug/L	2500	26.1	1	12/06/16 06:00	12/08/16 19:44	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/06/16 06:00	12/08/16 19:44	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/06/16 06:00	12/08/16 19:44	7440-22-4	
Sodium, Dissolved	14200	ug/L	1000	12.0	1	12/06/16 06:00	12/08/16 19:44	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/06/16 06:00	12/08/16 19:44	7440-28-0	
Vanadium, Dissolved	22.3	ug/L	15.0	0.39	1	12/06/16 06:00	12/08/16 19:44	7440-62-2	
Zinc, Dissolved	10.1J	ug/L	20.0	1.4	1	12/06/16 06:00	12/08/16 19:44	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/08/16 08:39	12/08/16 17:07	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/03/16 06:46	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/03/16 06:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/03/16 06:46	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/03/16 06:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/03/16 06:46	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/03/16 06:46	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/03/16 06:46	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/03/16 06:46	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/03/16 06:46	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/03/16 06:46	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/03/16 06:46	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/03/16 06:46	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/03/16 06:46	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/03/16 06:46	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Reed-(W-30)-GW-120116 Lab ID: 10371888002 Collected: 12/01/16 09:05 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/03/16 06:46	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/03/16 06:46	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/03/16 06:46	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/03/16 06:46	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/03/16 06:46	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/03/16 06:46	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/03/16 06:46	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/03/16 06:46	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/03/16 06:46	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/03/16 06:46	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/03/16 06:46	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/03/16 06:46	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/03/16 06:46	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/03/16 06:46	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/03/16 06:46	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/03/16 06:46	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/03/16 06:46	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/03/16 06:46	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/03/16 06:46	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/03/16 06:46	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/03/16 06:46	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/03/16 06:46	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/03/16 06:46	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/03/16 06:46	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/03/16 06:46	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/03/16 06:46	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/03/16 06:46	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/03/16 06:46	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/03/16 06:46	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/03/16 06:46	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/03/16 06:46	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/03/16 06:46	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/03/16 06:46	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/03/16 06:46	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/03/16 06:46	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/03/16 06:46	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/03/16 06:46	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/03/16 06:46	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/03/16 06:46	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/03/16 06:46	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/03/16 06:46	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/03/16 06:46	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/03/16 06:46	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/03/16 06:46	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/03/16 06:46	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/03/16 06:46	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Reed-(W-30)-GW-120116 Lab ID: 10371888002 Collected: 12/01/16 09:05 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/03/16 06:46	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/03/16 06:46	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/03/16 06:46	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/03/16 06:46	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/03/16 06:46	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/03/16 06:46	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/03/16 06:46	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/03/16 06:46	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/03/16 06:46	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/03/16 06:46	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/03/16 06:46	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/03/16 06:46	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/03/16 06:46	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/03/16 06:46	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/03/16 06:46	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/03/16 06:46	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/03/16 06:46	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/03/16 06:46	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/03/16 06:46	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/03/16 06:46	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	110	%	75-125		1		12/03/16 06:46	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/03/16 06:46	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/03/16 06:46	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	138	mg/L	5.0	1.4	1		12/10/16 10:56		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	178	mg/L	10.0	5.0	1		12/07/16 19:55		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/08/16 15:29	18496-25-8	
Iron, Ferrous		Analytical Method: HACH 8146							
Iron, Ferrous	<0.028	mg/L	0.093	0.028	1		12/14/16 12:04		H6
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	1.4	mg/L	1.2	0.10	1		12/02/16 20:32	16887-00-6	
Nitrate as N	0.24	mg/L	0.10	0.013	1		12/02/16 20:32	14797-55-8	
Sulfate	7.0	mg/L	1.2	0.16	1		12/02/16 20:32	14808-79-8	
Chromium, Hexavalent		Analytical Method: SM 3500-Cr D Modified							
Chromium, Hexavalent	<0.0030	mg/L	0.010	0.0030	1		12/02/16 12:04		H3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Reed-(W-30)-GW-120116 **Lab ID: 10371888002** Collected: 12/01/16 09:05 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.28J	mg/L	1.0	0.20	1		12/09/16 01:10	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Trip Blank **Lab ID: 10371888003** Collected: 12/01/16 00:00 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/03/16 03:50	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/03/16 03:50	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/03/16 03:50	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/03/16 03:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/03/16 03:50	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/03/16 03:50	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/03/16 03:50	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/03/16 03:50	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/03/16 03:50	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/03/16 03:50	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/03/16 03:50	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/03/16 03:50	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/03/16 03:50	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/03/16 03:50	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/03/16 03:50	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/03/16 03:50	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/03/16 03:50	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/03/16 03:50	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/03/16 03:50	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/03/16 03:50	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/03/16 03:50	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/03/16 03:50	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/03/16 03:50	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/03/16 03:50	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/03/16 03:50	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/03/16 03:50	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/03/16 03:50	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/03/16 03:50	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/03/16 03:50	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/03/16 03:50	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/03/16 03:50	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/03/16 03:50	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/03/16 03:50	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/03/16 03:50	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/03/16 03:50	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/03/16 03:50	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/03/16 03:50	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/03/16 03:50	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/03/16 03:50	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/03/16 03:50	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/03/16 03:50	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/03/16 03:50	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/03/16 03:50	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/03/16 03:50	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/03/16 03:50	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/03/16 03:50	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Sample: Trip Blank **Lab ID: 10371888003** Collected: 12/01/16 00:00 Received: 12/02/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/03/16 03:50	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/03/16 03:50	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/03/16 03:50	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/03/16 03:50	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/03/16 03:50	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/03/16 03:50	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/03/16 03:50	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/03/16 03:50	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/03/16 03:50	1634-04-4	
Methylene Chloride	0.40J	ug/L	4.0	0.097	1		12/03/16 03:50	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/03/16 03:50	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/03/16 03:50	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/03/16 03:50	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/03/16 03:50	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/03/16 03:50	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/03/16 03:50	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/03/16 03:50	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/03/16 03:50	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/03/16 03:50	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/03/16 03:50	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/03/16 03:50	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/03/16 03:50	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/03/16 03:50	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/03/16 03:50	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/03/16 03:50	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/03/16 03:50	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/03/16 03:50	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/03/16 03:50	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/03/16 03:50	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/03/16 03:50	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/03/16 03:50	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/03/16 03:50	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/03/16 03:50	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/03/16 03:50	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	109	%	75-125		1		12/03/16 03:50	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		12/03/16 03:50	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/03/16 03:50	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 450503 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10371888001

METHOD BLANK: 2466758 Matrix: Water
Associated Lab Samples: 10371888001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/06/16 17:15	
Ethene	ug/L	<0.77	10.0	0.77	12/06/16 17:15	
Methane	ug/L	1.5J	10.0	0.49	12/06/16 17:15	

LABORATORY CONTROL SAMPLE & LCSD: 2466759

Parameter	Units	2466760								Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	
Ethane	ug/L	114	115	122	101	107	85-115	6	20	
Ethene	ug/L	106	107	114	101	107	85-115	6	20	
Methane	ug/L	60.7	60.6	64.0	100	106	85-115	5	20	

SAMPLE DUPLICATE: 2467477

Parameter	Units	60233298006		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	51.7	54.4	5	20	

SAMPLE DUPLICATE: 2467482

Parameter	Units	60233298010		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	115	90.9	24	20 R1	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 450600 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10371888002

METHOD BLANK: 2467428 Matrix: Water
Associated Lab Samples: 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	6.2J	10.0	0.87	12/07/16 13:13	
Ethene	ug/L	6.2J	10.0	0.77	12/07/16 13:13	
Methane	ug/L	7.3J	10.0	0.49	12/07/16 13:13	

LABORATORY CONTROL SAMPLE & LCSD: 2467429

Parameter	Units	2467430		LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result						
Ethane	ug/L	114	105	92	100	85-115	8	20	
Ethene	ug/L	106	98.6	93	101	85-115	8	20	
Methane	ug/L	60.7	57.5	95	102	85-115	7	20	

SAMPLE DUPLICATE: 2468430

Parameter	Units	10372175008 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	3.8J		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	20.0	18.0	10	20	

SAMPLE DUPLICATE: 2468431

Parameter	Units	10372175005 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	1.1J		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	ND	5.4J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

QC Batch: 451947

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 2474532

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/08/16 17:00	

LABORATORY CONTROL SAMPLE: 2474533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474534 2474535

Parameter	Units	10373156001		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
Mercury, Dissolved	ug/L	<0.031		5	5	4.9	5.0	97	99	80-120	2	20			

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 451493 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 2472091 Matrix: Water
Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/08/16 18:52	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/08/16 18:52	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/08/16 18:52	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	12/08/16 18:52	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/08/16 18:52	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/08/16 18:52	
Calcium, Dissolved	ug/L	<15.8	500	15.8	12/08/16 18:52	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/08/16 18:52	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/08/16 18:52	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/08/16 18:52	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/08/16 18:52	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/08/16 18:52	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/08/16 18:52	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/08/16 18:52	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/08/16 18:52	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/08/16 18:52	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/08/16 18:52	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/08/16 18:52	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	12/08/16 18:52	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/08/16 18:52	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/08/16 18:52	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/08/16 18:52	

LABORATORY CONTROL SAMPLE: 2472092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20000	100	80-120	
Antimony, Dissolved	ug/L	1000	1020	102	80-120	
Arsenic, Dissolved	ug/L	1000	1060	106	80-120	
Barium, Dissolved	ug/L	1000	1040	104	80-120	
Beryllium, Dissolved	ug/L	1000	1020	102	80-120	
Cadmium, Dissolved	ug/L	1000	1040	104	80-120	
Calcium, Dissolved	ug/L	20000	20100	101	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	1030	103	80-120	
Iron, Dissolved	ug/L	20000	20100	101	80-120	
Lead, Dissolved	ug/L	1000	1040	104	80-120	
Magnesium, Dissolved	ug/L	20000	20200	101	80-120	
Manganese, Dissolved	ug/L	1000	1040	104	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

LABORATORY CONTROL SAMPLE: 2472092

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1030	103	80-120	
Potassium, Dissolved	ug/L	20000	20400	102	80-120	
Selenium, Dissolved	ug/L	1000	1040	104	80-120	
Silver, Dissolved	ug/L	500	510	102	80-120	
Sodium, Dissolved	ug/L	20000	20500	103	80-120	
Thallium, Dissolved	ug/L	1000	1000	100	80-120	
Vanadium, Dissolved	ug/L	1000	1010	101	80-120	
Zinc, Dissolved	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472202 2472203

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		10372995001 Result	Spike Conc.	Spike Conc.	MS Result						MSD Result
Aluminum, Dissolved	ug/L	44.4J	20000	20000	19100	20000	95	100	75-125	4	20
Antimony, Dissolved	ug/L	<2.5	1000	1000	978	1020	98	102	75-125	4	20
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1010	1050	101	105	75-125	4	20
Barium, Dissolved	ug/L	14.9	1000	1000	997	1040	98	103	75-125	4	20
Beryllium, Dissolved	ug/L	<0.064	1000	1000	968	1010	97	101	75-125	4	20
Cadmium, Dissolved	ug/L	<0.30	1000	1000	989	1030	99	103	75-125	4	20
Calcium, Dissolved	ug/L	26400	20000	20000	45600	47700	96	106	75-125	4	20
Chromium, Dissolved	ug/L	<2.0	1000	1000	968	1010	97	101	75-125	4	20
Cobalt, Dissolved	ug/L	<0.51	1000	1000	967	1010	97	101	75-125	4	20
Copper, Dissolved	ug/L	2.2J	1000	1000	980	1020	98	102	75-125	4	20
Iron, Dissolved	ug/L	87.4	20000	20000	19200	20000	96	100	75-125	4	20
Lead, Dissolved	ug/L	<1.9	1000	1000	977	1020	98	102	75-125	4	20
Magnesium, Dissolved	ug/L	3210	20000	20000	22300	23200	95	100	75-125	4	20
Manganese, Dissolved	ug/L	3.6J	1000	1000	987	1030	98	103	75-125	4	20
Nickel, Dissolved	ug/L	<1.6	1000	1000	973	1010	97	101	75-125	4	20
Potassium, Dissolved	ug/L	2530	20000	20000	22700	23800	101	106	75-125	4	20
Selenium, Dissolved	ug/L	<4.5	1000	1000	979	1030	98	103	75-125	6	20
Silver, Dissolved	ug/L	<0.28	500	500	485	508	97	102	75-125	5	20
Sodium, Dissolved	ug/L	17400	20000	20000	37600	39400	101	110	75-125	5	20
Thallium, Dissolved	ug/L	<3.8	1000	1000	944	988	94	99	75-125	5	20
Vanadium, Dissolved	ug/L	0.63J	1000	1000	962	1000	96	100	75-125	4	20
Zinc, Dissolved	ug/L	2.4J	1000	1000	983	1020	98	102	75-125	4	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 449979 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10371888001, 10371888002, 10371888003

METHOD BLANK: 2464284 Matrix: Water
Associated Lab Samples: 10371888001, 10371888002, 10371888003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/03/16 02:43	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/03/16 02:43	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/03/16 02:43	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/03/16 02:43	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/03/16 02:43	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/03/16 02:43	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/03/16 02:43	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/03/16 02:43	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/03/16 02:43	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/03/16 02:43	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/03/16 02:43	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/03/16 02:43	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/03/16 02:43	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/03/16 02:43	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/03/16 02:43	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/03/16 02:43	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/03/16 02:43	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/03/16 02:43	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/03/16 02:43	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/03/16 02:43	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/03/16 02:43	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/03/16 02:43	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/03/16 02:43	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/03/16 02:43	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/03/16 02:43	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/03/16 02:43	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/03/16 02:43	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/03/16 02:43	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/03/16 02:43	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/03/16 02:43	
Acetone	ug/L	1.0J	20.0	0.64	12/03/16 02:43	
Acrolein	ug/L	<2.1	10.0	2.1	12/03/16 02:43	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/03/16 02:43	
Benzene	ug/L	<0.042	0.50	0.042	12/03/16 02:43	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/03/16 02:43	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/03/16 02:43	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/03/16 02:43	
Bromoform	ug/L	<0.11	4.0	0.11	12/03/16 02:43	
Bromomethane	ug/L	<0.20	4.0	0.20	12/03/16 02:43	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/03/16 02:43	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/03/16 02:43	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

METHOD BLANK: 2464284 Matrix: Water
Associated Lab Samples: 10371888001, 10371888002, 10371888003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/03/16 02:43	
Chloroethane	ug/L	<0.12	1.0	0.12	12/03/16 02:43	
Chloroform	ug/L	<0.21	1.0	0.21	12/03/16 02:43	
Chloromethane	ug/L	<0.080	4.0	0.080	12/03/16 02:43	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/03/16 02:43	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/03/16 02:43	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/03/16 02:43	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/03/16 02:43	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/03/16 02:43	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/03/16 02:43	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/03/16 02:43	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/03/16 02:43	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/03/16 02:43	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/03/16 02:43	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/03/16 02:43	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/03/16 02:43	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/03/16 02:43	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/03/16 02:43	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/03/16 02:43	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/03/16 02:43	
Naphthalene	ug/L	<0.064	1.0	0.064	12/03/16 02:43	
o-Xylene	ug/L	<0.044	0.50	0.044	12/03/16 02:43	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/03/16 02:43	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/03/16 02:43	
Styrene	ug/L	<0.056	0.50	0.056	12/03/16 02:43	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/03/16 02:43	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/03/16 02:43	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/03/16 02:43	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/03/16 02:43	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/03/16 02:43	
Toluene	ug/L	<0.059	0.50	0.059	12/03/16 02:43	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/03/16 02:43	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/03/16 02:43	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/03/16 02:43	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/03/16 02:43	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/03/16 02:43	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/03/16 02:43	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/03/16 02:43	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/03/16 02:43	
1,2-Dichloroethane-d4 (S)	%	109	75-125		12/03/16 02:43	
4-Bromofluorobenzene (S)	%	100	75-125		12/03/16 02:43	
Toluene-d8 (S)	%	104	75-125		12/03/16 02:43	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

LABORATORY CONTROL SAMPLE & LCSD: 2464285		2464286									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	23.1	22.8	116	114	75-125	1	30		
1,1,1-Trichloroethane	ug/L	20	20.9	19.5	104	98	74-125	7	30		
1,1,2,2-Tetrachloroethane	ug/L	20	23.5	24.4	118	122	67-131	4	30		
1,1,2-Trichloroethane	ug/L	20	21.3	21.6	106	108	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	18.5	97	93	75-125	5	30		
1,1-Dichloroethane	ug/L	20	20.0	19.3	100	96	74-125	4	30		
1,1-Dichloroethene	ug/L	20	19.7	19.2	98	96	74-125	2	30		
1,1-Dichloropropene	ug/L	20	19.6	18.5	98	93	74-125	6	30		
1,2,3-Trichlorobenzene	ug/L	20	20.1	20.6	101	103	63-131	2	30		
1,2,3-Trichloropropane	ug/L	20	21.6	21.7	108	108	73-125	0	30		
1,2,4-Trichlorobenzene	ug/L	20	19.5	19.6	97	98	66-126	1	30		
1,2,4-Trimethylbenzene	ug/L	20	20.5	20.8	103	104	74-129	1	30		
1,2-Dibromo-3-chloropropane	ug/L	50	56.4	58.5	113	117	54-129	4	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.4	21.4	107	107	75-125	0	30		
1,2-Dichlorobenzene	ug/L	20	20.1	20.2	101	101	75-125	0	30		
1,2-Dichloroethane	ug/L	20	20.3	19.6	102	98	75-125	4	30		
1,2-Dichloroethene (Total)	ug/L	40	39.6	37.5	99	94	75-125	5	30		
1,2-Dichloropropane	ug/L	20	20.1	19.4	100	97	75-125	4	30		
1,3,5-Trimethylbenzene	ug/L	20	21.1	20.7	106	104	73-127	2	30		
1,3-Dichlorobenzene	ug/L	20	20.6	20.8	103	104	75-125	1	30		
1,3-Dichloropropane	ug/L	20	20.0	20.0	100	100	69-125	0	30		
1,4-Dichlorobenzene	ug/L	20	19.6	19.7	98	98	75-125	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	442	447	110	112	70-130	1	30		
2,2,4-Trimethylpentane	ug/L	20	18.7	17.8	94	89	67-138	5	30		
2,2-Dichloropropane	ug/L	20	18.0	17.4	90	87	69-125	3	30		
2-Butanone (MEK)	ug/L	100	97.1	97.8	97	98	48-145	1	30		
2-Chlorotoluene	ug/L	20	19.1	19.3	96	96	74-125	1	30		
2-Hexanone	ug/L	100	102	107	102	107	63-135	5	30		
4-Chlorotoluene	ug/L	20	21.3	21.1	107	105	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	100	103	100	103	53-138	2	30		
Acetone	ug/L	100	92.7	88.2	93	88	70-142	5	30		
Acrolein	ug/L	200	245	256	123	128	44-150	4	30		
Acrylonitrile	ug/L	200	198	202	99	101	68-125	2	30		
Benzene	ug/L	20	19.3	18.5	97	93	65-125	4	30		
Bromobenzene	ug/L	20	20.5	20.2	103	101	75-125	2	30		
Bromochloromethane	ug/L	20	20.3	20.4	102	102	75-125	1	30		
Bromodichloromethane	ug/L	20	21.0	20.5	105	102	73-125	3	30		
Bromoform	ug/L	20	21.4	21.7	107	109	69-125	1	30		
Bromomethane	ug/L	20	20.7	21.3	104	106	40-136	3	30		
Carbon disulfide	ug/L	20	18.3	17.4	91	87	36-150	5	30		
Carbon tetrachloride	ug/L	20	22.6	21.9	113	109	70-125	4	30		
Chlorobenzene	ug/L	20	19.9	19.8	99	99	75-125	1	30		
Chloroethane	ug/L	20	23.0	22.6	115	113	67-141	2	30		
Chloroform	ug/L	20	19.4	18.9	97	95	75-125	3	30		
Chloromethane	ug/L	20	19.4	18.7	97	93	50-150	4	30		
cis-1,2-Dichloroethene	ug/L	20	19.8	18.9	99	94	75-125	5	30		
cis-1,3-Dichloropropene	ug/L	20	19.1	18.8	95	94	75-125	1	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

LABORATORY CONTROL SAMPLE & LCSD: 2464285		2464286								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	22.4	22.2	112	111	75-125	1	30	
Dibromomethane	ug/L	20	19.7	19.0	99	95	75-129	4	30	
Dichlorodifluoromethane	ug/L	20	22.4	21.4	112	107	59-135	5	30	
Dichlorofluoromethane	ug/L	20	22.0	21.1	110	105	74-130	4	30	
Diisopropyl ether	ug/L	20	19.2	18.9	96	95	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	18.9	18.6	95	93	70-130	2	30	
Ethylbenzene	ug/L	20	20.0	19.6	100	98	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	20.6	22.3	103	112	72-126	8	30	
Isopropylbenzene (Cumene)	ug/L	20	20.1	19.7	101	99	71-136	2	30	
m&p-Xylene	ug/L	40	40.4	39.8	101	99	75-125	1	30	
Methyl-tert-butyl ether	ug/L	20	19.4	19.5	97	98	73-127	1	30	
Methylene Chloride	ug/L	20	20.3	19.4	101	97	68-128	4	30	
n-Butylbenzene	ug/L	20	20.3	20.5	101	102	70-126	1	30	
n-Propylbenzene	ug/L	20	20.3	20.3	101	101	67-131	0	30	
Naphthalene	ug/L	20	19.9	20.9	99	105	52-134	5	30	
o-Xylene	ug/L	20	19.8	19.8	99	99	75-125	0	30	
p-Isopropyltoluene	ug/L	20	20.5	20.3	102	101	74-125	1	30	
sec-Butylbenzene	ug/L	20	20.6	20.3	103	102	69-134	1	30	
Styrene	ug/L	20	20.5	20.3	102	102	75-125	1	30	
tert-Amylmethyl ether	ug/L	20	19.3	19.1	97	95	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	218	212	109	106	66-128	3	30	
tert-Butylbenzene	ug/L	20	20.2	20.6	101	103	71-128	2	30	
Tetrachloroethene	ug/L	20	19.1	18.7	95	94	74-125	2	30	
Tetrahydrofuran	ug/L	200	184	176	92	88	64-142	5	30	
Toluene	ug/L	20	18.8	18.3	94	92	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	19.7	18.6	99	93	73-125	6	30	
trans-1,3-Dichloropropene	ug/L	20	20.3	20.6	102	103	75-125	1	30	
trans-1,4-Dichloro-2-butene	ug/L	50	40.2	43.1	80	86	54-133	7	30	
Trichloroethene	ug/L	20	19.2	18.2	96	91	75-125	5	30	
Trichlorofluoromethane	ug/L	20	22.1	21.4	111	107	75-126	3	30	
Vinyl acetate	ug/L	20	21.9	21.7	110	109	67-126	1	30	
Vinyl chloride	ug/L	20	21.4	20.6	107	103	72-125	4	30	
Xylene (Total)	ug/L	60	60.2	59.6	100	99	75-125	1	30	
1,2-Dichloroethane-d4 (S)	%				105	103	75-125			
4-Bromofluorobenzene (S)	%				102	103	75-125			
Toluene-d8 (S)	%				104	103	75-125			

MATRIX SPIKE SAMPLE: 2464292		10371888001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	21.6	108	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	19.9	100	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	22.4	112	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	22.0	110	54-150	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

MATRIX SPIKE SAMPLE: 2464292		10371888001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	18.8	94	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	19.3	96	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	18.8	94	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	19.4	97	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.6	98	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	18.8	94	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20.0	100	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	52.0	104	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.7	99	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	93	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	17.9	90	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	36.8	92	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	19.1	95	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20.3	102	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	19.7	98	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	18.3	91	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.8	94	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	100	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.6	103	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	17.3	86	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	87.7	88	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.6	98	71-135	
2-Hexanone	ug/L	<0.19	100	96.9	97	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.4	102	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	94.2	94	60-147	
Acetone	ug/L	<0.64	100	80.6	81	59-150	
Acrolein	ug/L	<2.1	200	252	126	30-150	
Acrylonitrile	ug/L	<0.49	200	180	90	41-148	
Benzene	ug/L	<0.042	20	18.3	92	61-138	
Bromobenzene	ug/L	<0.087	20	19.7	98	74-130	
Bromochloromethane	ug/L	<0.082	20	18.7	93	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	96	66-136	
Bromoform	ug/L	<0.11	20	20.1	101	71-125	
Bromomethane	ug/L	<0.20	20	19.4	97	30-150	
Carbon disulfide	ug/L	<0.20	20	17.6	88	30-150	
Carbon tetrachloride	ug/L	<0.079	20	22.9	114	68-140	
Chlorobenzene	ug/L	<0.066	20	18.7	93	75-132	
Chloroethane	ug/L	<0.12	20	20.0	100	55-150	
Chloroform	ug/L	<0.21	20	18.2	90	64-139	
Chloromethane	ug/L	<0.080	20	17.3	87	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	18.3	92	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	17.4	87	70-125	
Dibromochloromethane	ug/L	<0.048	20	21.1	105	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	21.7	109	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	19.2	96	58-150	
Diisopropyl ether	ug/L	<0.050	20	17.8	89	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

MATRIX SPIKE SAMPLE: 2464292

Parameter	Units	10371888001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	17.2	86	30-140	
Ethylbenzene	ug/L	<0.075	20	19.1	95	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	22.0	110	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	19.5	97	65-146	
m&p-Xylene	ug/L	<0.11	40	38.3	96	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	17.7	88	63-134	
Methylene Chloride	ug/L	2.2J	20	20.4	91	49-143	
n-Butylbenzene	ug/L	<0.16	20	20.8	104	67-134	
n-Propylbenzene	ug/L	<0.049	20	19.9	99	62-142	
Naphthalene	ug/L	<0.064	20	19.2	96	41-150	
o-Xylene	ug/L	<0.044	20	19.2	96	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	20.0	100	64-137	
sec-Butylbenzene	ug/L	<0.094	20	20.5	103	65-142	
Styrene	ug/L	<0.056	20	17.6	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	17.5	87	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	195	98	59-138	
tert-Butylbenzene	ug/L	<0.051	20	19.9	100	69-135	
Tetrachloroethene	ug/L	<0.13	20	19.1	96	62-142	
Tetrahydrofuran	ug/L	<1.5	200	162	81	55-150	
Toluene	ug/L	<0.059	20	17.5	87	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	18.5	93	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	19.5	97	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	38.5	77	31-150	
Trichloroethene	ug/L	<0.044	20	18.3	91	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	20.7	103	63-150	
Vinyl acetate	ug/L	<0.12	20	17.0	85	30-150	
Vinyl chloride	ug/L	<0.098	20	19.2	96	58-150	
Xylene (Total)	ug/L	<0.15	60	57.6	96	70-140	
1,2-Dichloroethane-d4 (S)	%				103	75-125	
4-Bromofluorobenzene (S)	%				104	75-125	
Toluene-d8 (S)	%				103	75-125	

SAMPLE DUPLICATE: 2464293

Parameter	Units	10371888002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

SAMPLE DUPLICATE: 2464293

Parameter	Units	10371888002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

SAMPLE DUPLICATE: 2464293

Parameter	Units	10371888002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	110	114	3		
4-Bromofluorobenzene (S)	%	103	101	2		
Toluene-d8 (S)	%	103	104	1		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 451159 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 2470358 Matrix: Water
Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	12/10/16 10:22	

LABORATORY CONTROL SAMPLE & LCSD: 2470359 2470360

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	43.8	41.9	109	105	90-110	4	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2470361 2470362

Parameter	Units	10372168001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	91.2	40	40	128	128	93	93	80-120	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

QC Batch: 450723

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 2467891

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	12/07/16 19:55	

LABORATORY CONTROL SAMPLE: 2467892

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	980	98	80-120	

SAMPLE DUPLICATE: 2467893

Parameter	Units	10372277001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1620	1590	2	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 69514 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 289870 Matrix: Water
Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/08/16 15:22	

LABORATORY CONTROL SAMPLE: 289871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.22	108	90-110	

MATRIX SPIKE SAMPLE: 289873

Parameter	Units	2046869001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.15	72	75-125	M1

SAMPLE DUPLICATE: 289872

Parameter	Units	2046869001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.0067J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

QC Batch: 244160

Analysis Method: HACH 8146

QC Batch Method: HACH 8146

Analysis Description: Iron, Ferrous

Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 1445896

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

METHOD BLANK: 1445903

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

METHOD BLANK: 1445904

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.028	0.093	0.028	12/14/16 11:47	

LABORATORY CONTROL SAMPLE: 1445897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.6	0.51	85	80-120	

LABORATORY CONTROL SAMPLE: 1446029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.085J	85	80-120	

LABORATORY CONTROL SAMPLE: 1446030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.082J	82	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

LABORATORY CONTROL SAMPLE: 1446031

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	.1	0.094	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445898 1445899

Parameter	Units	10371787001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result										
Iron, Ferrous	mg/L	<0.028	.6	.6	0.69	0.68	116	114	80-120	1	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

QC Batch: 450006 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 2464371 Matrix: Water
Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/02/16 21:35	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/02/16 21:35	
Sulfate	mg/L	<0.16	1.2	0.16	12/02/16 21:35	

LABORATORY CONTROL SAMPLE: 2464372

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.4	99	90-110	
Nitrate as N	mg/L	1	0.96	96	90-110	
Sulfate	mg/L	12.5	12.3	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2464373 2464374

Parameter	Units	10371888001		2464374		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Chloride	mg/L	2.1	12.5	12.5	14.3	14.3	97	97	90-110	0	20	
Nitrate as N	mg/L	0.44	1	1	1.4	1.4	95	96	90-110	0	20	
Sulfate	mg/L	2.3	12.5	12.5	14.5	14.5	97	97	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2464375 2464376

Parameter	Units	10371888002		2464376		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Chloride	mg/L	1.4	12.5	12.5	13.5	13.5	97	97	90-110	0	20	
Nitrate as N	mg/L	0.24	1	1	1.2	1.2	96	95	90-110	0	20	
Sulfate	mg/L	7.0	12.5	12.5	18.7	18.7	93	93	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

QC Batch: 449958

Analysis Method: SM 3500-Cr D Modified

QC Batch Method: SM 3500-Cr D Modified

Analysis Description: Chromium, Hexavalent by 3500

Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 2464129

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	<0.0030	0.010	0.0030	12/02/16 12:04	

LABORATORY CONTROL SAMPLE: 2464130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.2	0.20	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2464131 2464132

Parameter	Units	10371888001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	<0.0030	.2	.2	0.20	0.20	100	101	85-115	1	20	H1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

QC Batch: 101708

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C TOC

Associated Lab Samples: 10371888001, 10371888002

METHOD BLANK: 404432

Matrix: Water

Associated Lab Samples: 10371888001, 10371888002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/08/16 21:26	

LABORATORY CONTROL SAMPLE: 404433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.6	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 404434 404435

Parameter	Units	10371847001		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec						
Total Organic Carbon	mg/L	7.5	25	25	33.4	34.3	104	107	80-120	2	20				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 404436 404437

Parameter	Units	10371787001		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec						
Total Organic Carbon	mg/L	0.91J	25	25	27.3	27.8	106	107	80-120	2	20				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10371888

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G Pace Analytical Services - Green Bay
PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 449979

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the recognized method holding time.
H3 Sample was received or analysis requested beyond the recognized method holding time.
H6 Analysis initiated outside of the 15 minute EPA required holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10371888

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10371888001	Lang-GW-120116	RSK 175	450503		
10371888002	Reed-(W-30)-GW-120116	RSK 175	450600		
10371888001	Lang-GW-120116	EPA 3010	451493	6010C Met	451528
10371888002	Reed-(W-30)-GW-120116	EPA 3010	451493	6010C Met	451528
10371888001	Lang-GW-120116	EPA 7470A	451947	EPA 7470A	451967
10371888002	Reed-(W-30)-GW-120116	EPA 7470A	451947	EPA 7470A	451967
10371888001	Lang-GW-120116	EPA 8260B	449979		
10371888002	Reed-(W-30)-GW-120116	EPA 8260B	449979		
10371888003	Trip Blank	EPA 8260B	449979		
10371888001	Lang-GW-120116	SM 2320B	451159		
10371888002	Reed-(W-30)-GW-120116	SM 2320B	451159		
10371888001	Lang-GW-120116	SM 2540C	450723		
10371888002	Reed-(W-30)-GW-120116	SM 2540C	450723		
10371888001	Lang-GW-120116	SM 4500-S-2 D	69514		
10371888002	Reed-(W-30)-GW-120116	SM 4500-S-2 D	69514		
10371888001	Lang-GW-120116	HACH 8146	244160		
10371888002	Reed-(W-30)-GW-120116	HACH 8146	244160		
10371888001	Lang-GW-120116	EPA 300.0	450006		
10371888002	Reed-(W-30)-GW-120116	EPA 300.0	450006		
10371888001	Lang-GW-120116	SM 3500-Cr D Modified	449958		
10371888002	Reed-(W-30)-GW-120116	SM 3500-Cr D Modified	449958		
10371888001	Lang-GW-120116	SM 5310C	101708		
10371888002	Reed-(W-30)-GW-120116	SM 5310C	101708		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10371888

Page: 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: CH2M Hill	Report To: Mark Ochsner, Brad Ostapkowicz	Attention: Gary Honeyman	Company Name: UPRR		
Address: 999 W. Riverside Ave, Suite 500 Spokane, WA 99201	Copy To: Steve Demus	Address: CAS	Purchase Order #:		
Email: mark.Ochsner@ch2n.com	Project Name: UPRR_Freeman	Pace Quote:	State / Location: WA / Freeman		
Phone: / Fax:	Project #: 1497	Pace Project Manager:	Regulatory Agency:		
Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day	Project #: 1497	Pace Profile #: 36447 / 1	WA / Freeman		

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)			
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Zn Acetate	Ascorbic Acid	Methanol	Other	Analyses			Est.		
				DATE	TIME	DATE	TIME																	
1	Lana-GW-120116	WTG				12/1/16	1000	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X		001
2	Reed (W-30)-GW-120116	WTG				12/1/16	0905	14	X	X	X	X	X	X	X	X	X	X	X	X	X	X		002
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	CH2M	12/1/16	1700	Lindsay Pace	12.2.16	1000	004	Y	Y	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Lindsay Baumann					
SIGNATURE of SAMPLER:	<i>[Signature]</i>	DATE Signed:	12-1-16			



Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.19

Document Revised: 05Jan2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CHM Hill Project #: WO# : 10371888

WO# : 10371888

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeeDee Other: _____
 Tracking Number: 7021 4575 4650

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 B88A912167504 B88A0143310098
 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read (°C): 0.4 Cooler Temp Corrected (°C): 0.4 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: 0.0 Date and Initials of Person Examining Contents: 12-2-16 TL

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		12.
-Includes Date/Time/ID/Analysis Matrix:	<u>VT</u>		
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl < 2; NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Sample # <u>1-2 1/1</u>
Per method, VOA pH is checked after analysis	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		15.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: Brad Ostapkowicz Date/Time: 12/02/16 14:50
 Comments/Resolution: BOD not required, please add TDS and ferrous iron.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>9:16</u> Temp: <u>0.4</u>	Corrected Temp: <u>0.4</u>	
Time: <u>1:30</u> put in cooler		
Time: _____ Temp: _____	Corrected Temp: _____	

Project Manager Review: JENNI GROSS Date: 12/02/16
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody _____

WO#: 2046790



Workorder: 10371888

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 12/2/2016

Results Requested By: 12/16/2016

Report To		Subcontract To				Requested Analysis																			
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																							
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers					4500 Sulfide	Requested Analysis							LAB USE ONLY						
						Other																			
1	Lang-GW-120116	PS	12/1/2016 10:00	10371888001	Water	1					X														
2	Reed-(W-30)-GW-120116	PS	12/1/2016 09:05	10371888002	Water	1					X														
3																									
4																									
5																									

Transfers						Comments											
Released By	Date/Time	Received By	Date/Time														
<i>[Signature]</i> Pace MN	12/5/16 900	<i>[Signature]</i>				<i>0940</i>											
		<i>[Signature]</i>	12-6-16														
		<i>[Signature]</i>	12-6-16														
Cooler Temperature on Receipt <i>1-2 °C</i>		Custody Seal <i>Y</i> or N		Received on Ice <i>Y</i> or N		Samples Intact <i>Y</i> or N											

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

WO#: 2046790

PM: ADC Due Date: 12/16/16

CLIENT: PASI-MINN

Project _____

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-6-16

Temp must be measured from Temperature blank when present	Comments:
Temperature Blank Present"? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9
Sample Labels match COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates. <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G). <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13 If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm): <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Chain of Custody

WO#: 1279901



PM: CLJ

Due Date: 12/16/16

CLIENT: PACE MPLS

Workorder: 10371888

Workorder Name: 1497 UPRR_Freeman

Owi

Requested By: 12/16/2016

Report To	Subcontract To	Requested Analysis																
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060	Pace Analytical Virginia MN 315 Chestnut Street Virginia, MN 55792 Phone (218)742-1042																	

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers								5310 TOC	LAB USE ONLY			
						H2SO4												
1	Lang-GW-120116	PS	12/1/2016 10:00	10371888001	Water	3									X			
2	Reed-(W-30)-GW-120116	PS	12/1/2016 09:05	10371888002	Water	3									X			
3																		
4																		
5																		

						Comments											
Transfers	Released By	Date/Time	Received By	Date/Time													
1	<i>[Signature]</i> Pace MN	12/5/16 900	<i>[Signature]</i>	12/5/16 1824													
2	<i>[Signature]</i>	12/5/16 2300	<i>[Signature]</i>	12-6-16 8:00													
3																	

Cooler Temperature on Receipt 1.5 °C
 Custody Seal or N
 Received on Ice or N
 Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Client Name: Pace-MIV

Project: **WO#: 1279901**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____



Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: Half Pace

Temp Blank? Yes No

Thermometer Used: 140792808

Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.2

Cooler Temp Corrected °C: 1.5

Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C

Correction Factor: tc-3

Date and Initials of Person Examining Contents: JPC 12/15/16

Comments: 15-BL 12-6-16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<u>14.T.B 12-6-16</u>
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrigan

Date: 12/7/16

Chain of Custody

Handwritten initials



Workorder: 10371888

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 12/2/2016

Results Requested By: 12/16/2016

Report To		Subcontract To					Requested Analysis															
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436																				
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers										LAB USE ONLY						
						1	2	3	4	5	6	7	8	9	10		11	12				
1	Lang-GW-120116 <i>001</i>	PS	12/1/2016 10:00	10371888001	Water	1															X	LAB USE ONLY <i>1-500ml bag</i> ↓
2	Reed-(W-30)-GW-120116 <i>002</i>	PS	12/1/2016 09:05	10371888002	Water	1															X	
3																						
4																						
5																						
Transfers					Released By	Date/Time	Received By		Date/Time	Comments												
1					<i>Amanda Nelson</i>	<i>12/7/16 1500</i>	<i>Free Pace</i>		<i>12/8/16 0910</i>													
2					<i>Walter</i>	<i>12/8/16 0910</i>	<i>Free Pace</i>		<i>12/8/16 0910</i>													
3																						
Cooler Temperature on Receipt					<i>4.5 °C</i>	Custody Seal		<i>(Y)</i> or N	Received on Ice		<i>(Y)</i> or N	Samples Intact										<i>(Y)</i> or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.



Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Pau MN
 Courier: Fed Ex UPS Client Pace Other: NAHLO
 Tracking #: 1229178-2
 Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
 Custody Seal on Samples Present: yes no Seals intact: yes no
 Packing Material: Bubble Wrap Bubble Bags None Other
 Thermometer Used: SB47 Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun
 Cooler Temperature: Uncorr: 4.5 / Corr: 4.5 Biological Tissue is Frozen: yes no
 Temp Blank Present: yes no

Project #: **WO# : 40143145**

Temp should be above freezing to 6°C for all sample except Biota.
 Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
 Date: 12/8/14
 Initials: IL

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4. <u>IRWD</u>
Samples Arrived within Hold Time:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5. <u>12/8/14</u>
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
-Pace IR Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix:	<u>W</u>	
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO3 <input type="checkbox"/> H2SO4 <input type="checkbox"/> NaOH <input type="checkbox"/> NaOH + ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed
		Lab Std #ID of preservative
		Date/Time:
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments
 Person Contacted: _____ Date/Time: _____
 Comments/ Resolution: _____

Project Manager Review: [Signature] Date: 12/8/14

January 20, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

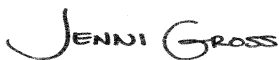
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 06, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):
E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10372168001	MW9S-GW-120516	Water	12/05/16 09:45	12/06/16 10:30
10372168002	MW8S-GW-120516	Water	12/05/16 12:00	12/06/16 10:30
10372168003	MW9S-GW-FD-120516	Water	12/05/16 09:50	12/06/16 10:30
10372168004	MW6S-GW-120516	Water	12/05/16 13:10	12/06/16 10:30
10372168005	MW12S-GW-120516	Water	12/05/16 14:15	12/06/16 10:30
10372168006	Trip Blank	Water	12/05/16 08:00	12/06/16 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10372168001	MW9S-GW-120516	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		Hach 10360 Rev 1.1	MBL	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		EPA 410.4	DCL	1	PASI-M
		SM 5310C	CRE	1	PASI-V
10372168002	MW8S-GW-120516	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10372168003	MW9S-GW-FD-120516	Hach 10360 Rev 1.1	MBL	1	PASI-M
		EPA 410.4	DCL	1	PASI-M
10372168004	MW6S-GW-120516	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10372168005	MW12S-GW-120516	SM 5310C	CRE	1	PASI-V
		RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
10372168006	Trip Blank	EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
		EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10372168001	MW9S-GW-120516					
RSK 175	Methane	1.8J	ug/L	10.0	12/08/16 13:50	
6010C Met	Aluminum, Dissolved	21.4J	ug/L	200	12/12/16 11:56	
6010C Met	Barium, Dissolved	60.2	ug/L	10.0	12/12/16 11:56	
6010C Met	Beryllium, Dissolved	0.13J	ug/L	5.0	12/12/16 11:56	
6010C Met	Calcium, Dissolved	63400	ug/L	500	12/12/16 11:56	
6010C Met	Cobalt, Dissolved	1.5J	ug/L	10.0	12/12/16 11:56	
6010C Met	Iron, Dissolved	31.4J	ug/L	50.0	12/12/16 11:56	
6010C Met	Magnesium, Dissolved	14200	ug/L	500	12/12/16 11:56	
6010C Met	Manganese, Dissolved	220	ug/L	5.0	12/12/16 11:56	
6010C Met	Potassium, Dissolved	1140J	ug/L	2500	12/12/16 11:56	
6010C Met	Sodium, Dissolved	12400	ug/L	1000	12/12/16 11:56	
6010C Met	Vanadium, Dissolved	1.5J	ug/L	15.0	12/12/16 11:56	
6010C Met	Zinc, Dissolved	26.1	ug/L	20.0	12/12/16 11:56	
EPA 8260B	Carbon disulfide	0.60J	ug/L	1.0	12/09/16 04:23	
EPA 8260B	Carbon tetrachloride	1000	ug/L	10.0	12/09/16 14:56	
EPA 8260B	Chloroform	102	ug/L	1.0	12/09/16 04:23	
Hach 10360 Rev 1.1	BOD, 5 day	2.3	mg/L	2.0	12/12/16 14:23	B6
SM 2320B	Alkalinity, Total as CaCO3	91.2	mg/L	5.0	12/10/16 11:05	
EPA 300.0	Chloride	25.8	mg/L	1.2	12/06/16 20:57	
EPA 300.0	Nitrate as N	13.6	mg/L	0.20	12/06/16 22:31	
EPA 300.0	Sulfate	69.7	mg/L	1.2	12/06/16 20:57	
EPA 410.4	Chemical Oxygen Demand	124	mg/L	50.0	12/15/16 14:38	
SM 5310C	Total Organic Carbon	2.6	mg/L	1.0	12/09/16 05:22	
10372168002	MW8S-GW-120516					
RSK 175	Methane	1.6J	ug/L	10.0	12/08/16 13:58	
6010C Met	Aluminum, Dissolved	24.9J	ug/L	200	12/12/16 12:09	
6010C Met	Arsenic, Dissolved	3.6J	ug/L	20.0	12/12/16 12:09	
6010C Met	Barium, Dissolved	42.2	ug/L	10.0	12/12/16 12:09	
6010C Met	Beryllium, Dissolved	0.13J	ug/L	5.0	12/12/16 12:09	
6010C Met	Calcium, Dissolved	45900	ug/L	500	12/12/16 12:09	
6010C Met	Cobalt, Dissolved	2.5J	ug/L	10.0	12/12/16 12:09	
6010C Met	Iron, Dissolved	39.2J	ug/L	50.0	12/12/16 12:09	
6010C Met	Lead, Dissolved	2.0J	ug/L	10.0	12/12/16 12:09	
6010C Met	Magnesium, Dissolved	10500	ug/L	500	12/12/16 12:09	
6010C Met	Manganese, Dissolved	238	ug/L	5.0	12/12/16 12:09	
6010C Met	Potassium, Dissolved	339J	ug/L	2500	12/12/16 12:09	
6010C Met	Sodium, Dissolved	11500	ug/L	1000	12/12/16 12:09	
6010C Met	Vanadium, Dissolved	1.5J	ug/L	15.0	12/12/16 12:09	
6010C Met	Zinc, Dissolved	43.0	ug/L	20.0	12/12/16 12:09	
EPA 8260B	Carbon disulfide	0.26J	ug/L	1.0	12/09/16 04:45	
EPA 8260B	Carbon tetrachloride	274	ug/L	5.0	12/09/16 14:34	
EPA 8260B	Chloroform	61.5	ug/L	1.0	12/09/16 04:45	
SM 2320B	Alkalinity, Total as CaCO3	137	mg/L	5.0	12/10/16 11:45	
EPA 300.0	Chloride	1.7	mg/L	1.2	12/06/16 21:12	
EPA 300.0	Nitrate as N	6.7	mg/L	0.10	12/06/16 21:12	
EPA 300.0	Sulfate	18.5	mg/L	1.2	12/06/16 21:12	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	12/09/16 05:35	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10372168003	MW9S-GW-FD-120516					
Hach 10360 Rev 1.1	BOD, 5 day	2.0J	mg/L	2.0	12/12/16 14:25	B6
EPA 410.4	Chemical Oxygen Demand	114	mg/L	50.0	12/15/16 14:38	
10372168004	MW6S-GW-120516					
RSK 175	Methane	2.7J	ug/L	10.0	12/08/16 14:06	
6010C Met	Aluminum, Dissolved	21.4J	ug/L	200	12/12/16 12:12	
6010C Met	Barium, Dissolved	41.1	ug/L	10.0	12/12/16 12:12	
6010C Met	Calcium, Dissolved	38900	ug/L	500	12/12/16 12:12	
6010C Met	Cobalt, Dissolved	3.2J	ug/L	10.0	12/12/16 12:12	
6010C Met	Iron, Dissolved	183	ug/L	50.0	12/12/16 12:12	
6010C Met	Lead, Dissolved	2.8J	ug/L	10.0	12/12/16 12:12	
6010C Met	Magnesium, Dissolved	10500	ug/L	500	12/12/16 12:12	
6010C Met	Manganese, Dissolved	356	ug/L	5.0	12/12/16 12:12	
6010C Met	Potassium, Dissolved	703J	ug/L	2500	12/12/16 12:12	
6010C Met	Sodium, Dissolved	13200	ug/L	1000	12/12/16 12:12	
6010C Met	Vanadium, Dissolved	3.5J	ug/L	15.0	12/12/16 12:12	
6010C Met	Zinc, Dissolved	8.4J	ug/L	20.0	12/12/16 12:12	
EPA 8260B	Carbon disulfide	0.40J	ug/L	1.0	12/09/16 16:46	
SM 2320B	Alkalinity, Total as CaCO3	161	mg/L	5.0	12/10/16 11:48	
EPA 300.0	Chloride	2.0	mg/L	1.2	12/06/16 21:27	
EPA 300.0	Nitrate as N	0.049J	mg/L	0.10	12/06/16 21:27	
EPA 300.0	Sulfate	2.4	mg/L	1.2	12/06/16 21:27	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	12/09/16 05:48	
10372168005	MW12S-GW-120516					
RSK 175	Methane	3.0J	ug/L	10.0	12/08/16 14:57	
6010C Met	Aluminum, Dissolved	1220	ug/L	200	12/12/16 12:14	
6010C Met	Barium, Dissolved	200	ug/L	10.0	12/12/16 12:14	
6010C Met	Calcium, Dissolved	78500	ug/L	500	12/12/16 12:14	
6010C Met	Cobalt, Dissolved	10.9	ug/L	10.0	12/12/16 12:14	
6010C Met	Iron, Dissolved	3460	ug/L	50.0	12/12/16 12:14	
6010C Met	Magnesium, Dissolved	22400	ug/L	500	12/12/16 12:14	
6010C Met	Manganese, Dissolved	2770	ug/L	5.0	12/12/16 12:14	
6010C Met	Nickel, Dissolved	5.7J	ug/L	20.0	12/12/16 12:14	
6010C Met	Potassium, Dissolved	1120J	ug/L	2500	12/12/16 12:14	
6010C Met	Sodium, Dissolved	30200	ug/L	1000	12/12/16 12:14	
6010C Met	Vanadium, Dissolved	1.2J	ug/L	15.0	12/12/16 12:14	
6010C Met	Zinc, Dissolved	19.7J	ug/L	20.0	12/12/16 12:14	
EPA 8260B	Acetone	4.4J	ug/L	20.0	12/09/16 05:29	
EPA 8260B	Carbon disulfide	0.27J	ug/L	1.0	12/09/16 05:29	
SM 2320B	Alkalinity, Total as CaCO3	277	mg/L	5.0	12/10/16 11:52	
SM 4500-S-2 D	Sulfide, Total	0.0075J	mg/L	0.020	12/08/16 15:35	
EPA 300.0	Chloride	37.4	mg/L	1.2	12/06/16 21:42	
EPA 300.0	Nitrate as N	0.11	mg/L	0.10	12/06/16 21:42	
EPA 300.0	Sulfate	23.4	mg/L	1.2	12/06/16 21:42	
SM 5310C	Total Organic Carbon	3.9	mg/L	1.0	12/09/16 06:02	
10372168006	Trip Blank					
EPA 8260B	Methylene Chloride	0.51J	ug/L	4.0	12/09/16 00:42	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 450816

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 451019

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: Hach 10360 Rev 1.1

Description: Hach 10360 Rev 1.1 BOD

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

2 samples were analyzed for Hach 10360 Rev 1.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with Hach 10360 with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 450587

B6: The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.

- DUP (Lab ID: 2467400)
 - BOD, 5 day
- DUP (Lab ID: 2468033)
 - BOD, 5 day
- LCS (Lab ID: 2467399)
 - BOD, 5 day
- MW9S-GW-120516 (Lab ID: 10372168001)
 - BOD, 5 day
- MW9S-GW-FD-120516 (Lab ID: 10372168003)
 - BOD, 5 day

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 69514

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2046869001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 289873)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: EPA 410.4

Description: 410.4 COD

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

2 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: January 20, 2017

General Information:

4 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW9S-GW-120516 **Lab ID: 10372168001** Collected: 12/05/16 09:45 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/08/16 13:50	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/08/16 13:50	74-85-1	
Methane	1.8J	ug/L	10.0	0.49	1		12/08/16 13:50	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	21.4J	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 11:56	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 11:56	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 11:56	7440-38-2	
Barium, Dissolved	60.2	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 11:56	7440-39-3	
Beryllium, Dissolved	0.13J	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 11:56	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 11:56	7440-43-9	
Calcium, Dissolved	63400	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 11:56	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 11:56	7440-47-3	
Cobalt, Dissolved	1.5J	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 11:56	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 11:56	7440-50-8	
Iron, Dissolved	31.4J	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 11:56	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 11:56	7439-92-1	
Magnesium, Dissolved	14200	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 11:56	7439-95-4	
Manganese, Dissolved	220	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 11:56	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 11:56	7440-02-0	
Potassium, Dissolved	1140J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 11:56	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 11:56	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 11:56	7440-22-4	
Sodium, Dissolved	12400	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 11:56	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 11:56	7440-28-0	
Vanadium, Dissolved	1.5J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 11:56	7440-62-2	
Zinc, Dissolved	26.1	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 11:56	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:25	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 04:23	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/09/16 04:23	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 04:23	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 04:23	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/09/16 04:23	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 04:23	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/09/16 04:23	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/09/16 04:23	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/09/16 04:23	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/09/16 04:23	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/09/16 04:23	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/09/16 04:23	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/09/16 04:23	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/09/16 04:23	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: **MW9S-GW-120516** Lab ID: **10372168001** Collected: 12/05/16 09:45 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/09/16 04:23	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/09/16 04:23	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/09/16 04:23	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/09/16 04:23	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/09/16 04:23	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/09/16 04:23	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/09/16 04:23	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/09/16 04:23	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/09/16 04:23	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/09/16 04:23	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/09/16 04:23	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/09/16 04:23	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/09/16 04:23	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/09/16 04:23	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/09/16 04:23	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/09/16 04:23	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/09/16 04:23	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/09/16 04:23	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/09/16 04:23	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/09/16 04:23	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/09/16 04:23	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/09/16 04:23	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/09/16 04:23	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/09/16 04:23	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/09/16 04:23	74-83-9	
Carbon disulfide	0.60J	ug/L	1.0	0.20	1		12/09/16 04:23	75-15-0	
Carbon tetrachloride	1000	ug/L	10.0	0.79	10		12/09/16 14:56	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/09/16 04:23	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/09/16 04:23	75-00-3	
Chloroform	102	ug/L	1.0	0.21	1		12/09/16 04:23	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/09/16 04:23	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/09/16 04:23	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/09/16 04:23	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/09/16 04:23	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/09/16 04:23	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/09/16 04:23	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/09/16 04:23	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/09/16 04:23	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/09/16 04:23	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/09/16 04:23	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/09/16 04:23	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/09/16 04:23	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/09/16 04:23	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/09/16 04:23	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/09/16 04:23	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/09/16 04:23	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW9S-GW-120516 **Lab ID: 10372168001** Collected: 12/05/16 09:45 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/09/16 04:23	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/09/16 04:23	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/09/16 04:23	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/09/16 04:23	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/09/16 04:23	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/09/16 04:23	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/09/16 04:23	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/09/16 04:23	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/09/16 04:23	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/09/16 04:23	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/09/16 04:23	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/09/16 04:23	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/09/16 04:23	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/09/16 04:23	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/09/16 04:23	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/09/16 04:23	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/09/16 04:23	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/09/16 04:23	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/09/16 04:23	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/09/16 04:23	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	75-125		1		12/09/16 04:23	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/09/16 04:23	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/09/16 04:23	460-00-4	
Hach 10360 Rev 1.1 BOD Analytical Method: Hach 10360 Rev 1.1 Preparation Method: Hach 10360									
BOD, 5 day	2.3	mg/L	2.0	1.0	1	12/07/16 09:44	12/12/16 14:23		B6
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	91.2	mg/L	5.0	1.4	1		12/10/16 11:05		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/08/16 15:33	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	25.8	mg/L	1.2	0.10	1		12/06/16 20:57	16887-00-6	
Nitrate as N	13.6	mg/L	0.20	0.026	2		12/06/16 22:31	14797-55-8	
Sulfate	69.7	mg/L	1.2	0.16	1		12/06/16 20:57	14808-79-8	
410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4									
Chemical Oxygen Demand	124	mg/L	50.0	5.4	1	12/15/16 11:50	12/15/16 14:38		
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	2.6	mg/L	1.0	0.20	1		12/09/16 05:22	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW8S-GW-120516 **Lab ID: 10372168002** Collected: 12/05/16 12:00 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		12/08/16 13:58	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/08/16 13:58	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		12/08/16 13:58	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	24.9J	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 12:09	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:09	7440-36-0	
Arsenic, Dissolved	3.6J	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:09	7440-38-2	
Barium, Dissolved	42.2	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 12:09	7440-39-3	
Beryllium, Dissolved	0.13J	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 12:09	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 12:09	7440-43-9	
Calcium, Dissolved	45900	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 12:09	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 12:09	7440-47-3	
Cobalt, Dissolved	2.5J	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 12:09	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 12:09	7440-50-8	
Iron, Dissolved	39.2J	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 12:09	7439-89-6	
Lead, Dissolved	2.0J	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 12:09	7439-92-1	
Magnesium, Dissolved	10500	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 12:09	7439-95-4	
Manganese, Dissolved	238	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 12:09	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 12:09	7440-02-0	
Potassium, Dissolved	339J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 12:09	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 12:09	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 12:09	7440-22-4	
Sodium, Dissolved	11500	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 12:09	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 12:09	7440-28-0	
Vanadium, Dissolved	1.5J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 12:09	7440-62-2	
Zinc, Dissolved	43.0	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 12:09	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:27	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 04:45	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/09/16 04:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 04:45	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 04:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/09/16 04:45	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 04:45	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/09/16 04:45	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/09/16 04:45	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/09/16 04:45	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/09/16 04:45	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/09/16 04:45	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/09/16 04:45	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/09/16 04:45	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/09/16 04:45	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW8S-GW-120516 Lab ID: 10372168002 Collected: 12/05/16 12:00 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/09/16 04:45	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/09/16 04:45	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/09/16 04:45	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/09/16 04:45	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/09/16 04:45	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/09/16 04:45	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/09/16 04:45	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/09/16 04:45	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/09/16 04:45	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/09/16 04:45	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/09/16 04:45	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/09/16 04:45	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/09/16 04:45	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/09/16 04:45	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/09/16 04:45	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/09/16 04:45	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/09/16 04:45	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/09/16 04:45	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/09/16 04:45	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/09/16 04:45	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/09/16 04:45	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/09/16 04:45	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/09/16 04:45	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/09/16 04:45	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/09/16 04:45	74-83-9	
Carbon disulfide	0.26J	ug/L	1.0	0.20	1		12/09/16 04:45	75-15-0	
Carbon tetrachloride	274	ug/L	5.0	0.40	5		12/09/16 14:34	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/09/16 04:45	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/09/16 04:45	75-00-3	
Chloroform	61.5	ug/L	1.0	0.21	1		12/09/16 04:45	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/09/16 04:45	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/09/16 04:45	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/09/16 04:45	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/09/16 04:45	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/09/16 04:45	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/09/16 04:45	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/09/16 04:45	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/09/16 04:45	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/09/16 04:45	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/09/16 04:45	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/09/16 04:45	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/09/16 04:45	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/09/16 04:45	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/09/16 04:45	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/09/16 04:45	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/09/16 04:45	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW8S-GW-120516 **Lab ID: 10372168002** Collected: 12/05/16 12:00 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/09/16 04:45	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/09/16 04:45	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/09/16 04:45	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/09/16 04:45	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/09/16 04:45	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/09/16 04:45	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/09/16 04:45	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/09/16 04:45	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/09/16 04:45	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/09/16 04:45	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/09/16 04:45	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/09/16 04:45	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/09/16 04:45	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/09/16 04:45	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/09/16 04:45	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/09/16 04:45	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/09/16 04:45	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/09/16 04:45	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/09/16 04:45	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/09/16 04:45	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	114	%	75-125		1		12/09/16 04:45	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/09/16 04:45	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/09/16 04:45	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	137	mg/L	5.0	1.4	1		12/10/16 11:45		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/08/16 15:34	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.7	mg/L	1.2	0.10	1		12/06/16 21:12	16887-00-6	
Nitrate as N	6.7	mg/L	0.10	0.013	1		12/06/16 21:12	14797-55-8	
Sulfate	18.5	mg/L	1.2	0.16	1		12/06/16 21:12	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	1.4	mg/L	1.0	0.20	1		12/09/16 05:35	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW9S-GW-FD-120516 **Lab ID: 10372168003** Collected: 12/05/16 09:50 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Hach 10360 Rev 1.1 BOD									
Analytical Method: Hach 10360 Rev 1.1 Preparation Method: Hach 10360									
BOD, 5 day	2.0J	mg/L	2.0	1.0	1	12/07/16 09:44	12/12/16 14:25		B6
410.4 COD									
Analytical Method: EPA 410.4 Preparation Method: EPA 410.4									
Chemical Oxygen Demand	114	mg/L	50.0	5.4	1	12/15/16 11:50	12/15/16 14:38		

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW6S-GW-120516 **Lab ID: 10372168004** Collected: 12/05/16 13:10 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/08/16 14:06	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/08/16 14:06	74-85-1	
Methane	2.7J	ug/L	10.0	0.49	1		12/08/16 14:06	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	21.4J	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 12:12	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:12	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:12	7440-38-2	
Barium, Dissolved	41.1	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 12:12	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 12:12	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 12:12	7440-43-9	
Calcium, Dissolved	38900	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 12:12	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 12:12	7440-47-3	
Cobalt, Dissolved	3.2J	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 12:12	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 12:12	7440-50-8	
Iron, Dissolved	183	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 12:12	7439-89-6	
Lead, Dissolved	2.8J	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 12:12	7439-92-1	
Magnesium, Dissolved	10500	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 12:12	7439-95-4	
Manganese, Dissolved	356	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 12:12	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 12:12	7440-02-0	
Potassium, Dissolved	703J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 12:12	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 12:12	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 12:12	7440-22-4	
Sodium, Dissolved	13200	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 12:12	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 12:12	7440-28-0	
Vanadium, Dissolved	3.5J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 12:12	7440-62-2	
Zinc, Dissolved	8.4J	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 12:12	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:34	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 16:46	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/09/16 16:46	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 16:46	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 16:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/09/16 16:46	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 16:46	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/09/16 16:46	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/09/16 16:46	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/09/16 16:46	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/09/16 16:46	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/09/16 16:46	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/09/16 16:46	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/09/16 16:46	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/09/16 16:46	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: **MW6S-GW-120516** Lab ID: **10372168004** Collected: 12/05/16 13:10 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/09/16 16:46	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/09/16 16:46	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/09/16 16:46	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/09/16 16:46	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/09/16 16:46	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/09/16 16:46	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/09/16 16:46	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/09/16 16:46	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/09/16 16:46	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/09/16 16:46	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/09/16 16:46	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/09/16 16:46	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/09/16 16:46	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/09/16 16:46	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/09/16 16:46	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/09/16 16:46	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/09/16 16:46	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/09/16 16:46	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/09/16 16:46	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/09/16 16:46	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/09/16 16:46	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/09/16 16:46	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/09/16 16:46	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/09/16 16:46	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/09/16 16:46	74-83-9	
Carbon disulfide	0.40J	ug/L	1.0	0.20	1		12/09/16 16:46	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/09/16 16:46	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/09/16 16:46	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/09/16 16:46	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/09/16 16:46	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/09/16 16:46	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/09/16 16:46	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/09/16 16:46	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/09/16 16:46	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/09/16 16:46	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/09/16 16:46	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/09/16 16:46	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/09/16 16:46	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/09/16 16:46	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/09/16 16:46	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/09/16 16:46	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/09/16 16:46	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/09/16 16:46	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/09/16 16:46	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/09/16 16:46	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/09/16 16:46	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW6S-GW-120516 **Lab ID: 10372168004** Collected: 12/05/16 13:10 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/09/16 16:46	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/09/16 16:46	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/09/16 16:46	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/09/16 16:46	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/09/16 16:46	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/09/16 16:46	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/09/16 16:46	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/09/16 16:46	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/09/16 16:46	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/09/16 16:46	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/09/16 16:46	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/09/16 16:46	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/09/16 16:46	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/09/16 16:46	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/09/16 16:46	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/09/16 16:46	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/09/16 16:46	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/09/16 16:46	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/09/16 16:46	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/09/16 16:46	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		12/09/16 16:46	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/09/16 16:46	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		12/09/16 16:46	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	161	mg/L	5.0	1.4	1		12/10/16 11:48		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/08/16 15:36	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	2.0	mg/L	1.2	0.10	1		12/06/16 21:27	16887-00-6	
Nitrate as N	0.049J	mg/L	0.10	0.013	1		12/06/16 21:27	14797-55-8	
Sulfate	2.4	mg/L	1.2	0.16	1		12/06/16 21:27	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.1	mg/L	1.0	0.20	1		12/09/16 05:48	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW12S-GW-120516 **Lab ID:** 10372168005 Collected: 12/05/16 14:15 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/08/16 14:57	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/08/16 14:57	74-85-1	
Methane	3.0J	ug/L	10.0	0.49	1		12/08/16 14:57	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	1220	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 12:14	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:14	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:14	7440-38-2	
Barium, Dissolved	200	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 12:14	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 12:14	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 12:14	7440-43-9	
Calcium, Dissolved	78500	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 12:14	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 12:14	7440-47-3	
Cobalt, Dissolved	10.9	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 12:14	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 12:14	7440-50-8	
Iron, Dissolved	3460	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 12:14	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 12:14	7439-92-1	
Magnesium, Dissolved	22400	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 12:14	7439-95-4	
Manganese, Dissolved	2770	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 12:14	7439-96-5	
Nickel, Dissolved	5.7J	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 12:14	7440-02-0	
Potassium, Dissolved	1120J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 12:14	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 12:14	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 12:14	7440-22-4	
Sodium, Dissolved	30200	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 12:14	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 12:14	7440-28-0	
Vanadium, Dissolved	1.2J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 12:14	7440-62-2	
Zinc, Dissolved	19.7J	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 12:14	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:41	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 05:29	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/09/16 05:29	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 05:29	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 05:29	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/09/16 05:29	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 05:29	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/09/16 05:29	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/09/16 05:29	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/09/16 05:29	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/09/16 05:29	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/09/16 05:29	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/09/16 05:29	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/09/16 05:29	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/09/16 05:29	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW12S-GW-120516 Lab ID: 10372168005 Collected: 12/05/16 14:15 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/09/16 05:29	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/09/16 05:29	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/09/16 05:29	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/09/16 05:29	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/09/16 05:29	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/09/16 05:29	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/09/16 05:29	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/09/16 05:29	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/09/16 05:29	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/09/16 05:29	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/09/16 05:29	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/09/16 05:29	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/09/16 05:29	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/09/16 05:29	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/09/16 05:29	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/09/16 05:29	108-10-1	
Acetone	4.4J	ug/L	20.0	0.64	1		12/09/16 05:29	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/09/16 05:29	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/09/16 05:29	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/09/16 05:29	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/09/16 05:29	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/09/16 05:29	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/09/16 05:29	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/09/16 05:29	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/09/16 05:29	74-83-9	
Carbon disulfide	0.27J	ug/L	1.0	0.20	1		12/09/16 05:29	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/09/16 05:29	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/09/16 05:29	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/09/16 05:29	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/09/16 05:29	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/09/16 05:29	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/09/16 05:29	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/09/16 05:29	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/09/16 05:29	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/09/16 05:29	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/09/16 05:29	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/09/16 05:29	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/09/16 05:29	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/09/16 05:29	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/09/16 05:29	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/09/16 05:29	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/09/16 05:29	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/09/16 05:29	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/09/16 05:29	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/09/16 05:29	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/09/16 05:29	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: MW12S-GW-120516 **Lab ID: 10372168005** Collected: 12/05/16 14:15 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/09/16 05:29	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/09/16 05:29	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/09/16 05:29	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/09/16 05:29	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/09/16 05:29	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/09/16 05:29	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/09/16 05:29	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/09/16 05:29	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/09/16 05:29	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/09/16 05:29	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/09/16 05:29	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/09/16 05:29	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/09/16 05:29	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/09/16 05:29	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/09/16 05:29	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/09/16 05:29	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/09/16 05:29	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/09/16 05:29	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/09/16 05:29	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/09/16 05:29	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		12/09/16 05:29	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/09/16 05:29	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/09/16 05:29	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	277	mg/L	5.0	1.4	1		12/10/16 11:52		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.0075J	mg/L	0.020	0.0050	1		12/08/16 15:35	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	37.4	mg/L	1.2	0.10	1		12/06/16 21:42	16887-00-6	
Nitrate as N	0.11	mg/L	0.10	0.013	1		12/06/16 21:42	14797-55-8	
Sulfate	23.4	mg/L	1.2	0.16	1		12/06/16 21:42	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	3.9	mg/L	1.0	0.20	1		12/09/16 06:02	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: Trip Blank **Lab ID: 10372168006** Collected: 12/05/16 08:00 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 00:42	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/09/16 00:42	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 00:42	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/09/16 00:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/09/16 00:42	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/09/16 00:42	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/09/16 00:42	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/09/16 00:42	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/09/16 00:42	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/09/16 00:42	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/09/16 00:42	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/09/16 00:42	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/09/16 00:42	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/09/16 00:42	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/09/16 00:42	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/09/16 00:42	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/09/16 00:42	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/09/16 00:42	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/09/16 00:42	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/09/16 00:42	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/09/16 00:42	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/09/16 00:42	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/09/16 00:42	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/09/16 00:42	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/09/16 00:42	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/09/16 00:42	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/09/16 00:42	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/09/16 00:42	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/09/16 00:42	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/09/16 00:42	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/09/16 00:42	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/09/16 00:42	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/09/16 00:42	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/09/16 00:42	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/09/16 00:42	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/09/16 00:42	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/09/16 00:42	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/09/16 00:42	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/09/16 00:42	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/09/16 00:42	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/09/16 00:42	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/09/16 00:42	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/09/16 00:42	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/09/16 00:42	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/09/16 00:42	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/09/16 00:42	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Sample: Trip Blank **Lab ID: 10372168006** Collected: 12/05/16 08:00 Received: 12/06/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/09/16 00:42	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/09/16 00:42	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/09/16 00:42	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/09/16 00:42	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/09/16 00:42	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/09/16 00:42	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/09/16 00:42	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/09/16 00:42	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/09/16 00:42	1634-04-4	
Methylene Chloride	0.51J	ug/L	4.0	0.097	1		12/09/16 00:42	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/09/16 00:42	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/09/16 00:42	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/09/16 00:42	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/09/16 00:42	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/09/16 00:42	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/09/16 00:42	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/09/16 00:42	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/09/16 00:42	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/09/16 00:42	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/09/16 00:42	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/09/16 00:42	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/09/16 00:42	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/09/16 00:42	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/09/16 00:42	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/09/16 00:42	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/09/16 00:42	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/09/16 00:42	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/09/16 00:42	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/09/16 00:42	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/09/16 00:42	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/09/16 00:42	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/09/16 00:42	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/09/16 00:42	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/09/16 00:42	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%	75-125		1		12/09/16 00:42	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/09/16 00:42	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/09/16 00:42	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 450814 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 2468369 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/08/16 12:22	
Ethene	ug/L	<0.77	10.0	0.77	12/08/16 12:22	
Methane	ug/L	1.6J	10.0	0.49	12/08/16 12:22	

LABORATORY CONTROL SAMPLE & LCSD: 2468370

Parameter	Units	2468370		2468371		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	% Rec				
Ethane	ug/L	114	112	118	99	104	85-115	5	20
Ethene	ug/L	106	105	111	99	105	85-115	5	20
Methane	ug/L	60.7	60.4	63.5	100	105	85-115	5	20

SAMPLE DUPLICATE: 2469797

Parameter	Units	10372175016 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	12.2	13.5	10	20	
Ethene	ug/L	14.9	15.1	1	20	
Methane	ug/L	15.0	17.3	14	20	

SAMPLE DUPLICATE: 2469798

Parameter	Units	10372168005 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	3.0J	2.6J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

QC Batch: 451693

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 2473285

Matrix: Water

Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/12/16 15:18	

LABORATORY CONTROL SAMPLE: 2473286

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2473287 2473288

Parameter	Units	10372168002		2473287		2473288		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Mercury, Dissolved	ug/L	<0.031	5	5	5	4.9	5.2	97	104	80-120	7	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 451494 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 2472094 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/12/16 11:51	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/12/16 11:51	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/12/16 11:51	
Barium, Dissolved	ug/L	0.34J	10.0	0.20	12/12/16 11:51	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/12/16 11:51	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/12/16 11:51	
Calcium, Dissolved	ug/L	47.6J	500	15.8	12/12/16 11:51	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/12/16 11:51	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/12/16 11:51	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/12/16 11:51	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/12/16 11:51	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/12/16 11:51	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/12/16 11:51	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/12/16 11:51	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/12/16 11:51	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/12/16 11:51	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/12/16 11:51	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/12/16 11:51	
Sodium, Dissolved	ug/L	323J	1000	12.0	12/12/16 11:51	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/12/16 11:51	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/12/16 11:51	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/12/16 11:51	

LABORATORY CONTROL SAMPLE: 2472095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20400	102	80-120	
Antimony, Dissolved	ug/L	1000	973	97	80-120	
Arsenic, Dissolved	ug/L	1000	1020	102	80-120	
Barium, Dissolved	ug/L	1000	1030	103	80-120	
Beryllium, Dissolved	ug/L	1000	1010	101	80-120	
Cadmium, Dissolved	ug/L	1000	1020	102	80-120	
Calcium, Dissolved	ug/L	20000	20700	103	80-120	
Chromium, Dissolved	ug/L	1000	997	100	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	998	100	80-120	
Iron, Dissolved	ug/L	20000	19900	99	80-120	
Lead, Dissolved	ug/L	1000	1030	103	80-120	
Magnesium, Dissolved	ug/L	20000	20400	102	80-120	
Manganese, Dissolved	ug/L	1000	1010	101	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

LABORATORY CONTROL SAMPLE: 2472095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1020	102	80-120	
Potassium, Dissolved	ug/L	20000	19700	98	80-120	
Selenium, Dissolved	ug/L	1000	1060	106	80-120	
Silver, Dissolved	ug/L	500	505	101	80-120	
Sodium, Dissolved	ug/L	20000	19400	97	80-120	
Thallium, Dissolved	ug/L	1000	968	97	80-120	
Vanadium, Dissolved	ug/L	1000	1020	102	80-120	
Zinc, Dissolved	ug/L	1000	1060	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472096 2472097

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10372168001 Result	Spike Conc.	Spike Conc.	MS Result							
Aluminum, Dissolved	ug/L	21.4J	20000	20000	20000	20100	100	101	75-125	0	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	971	975	97	97	75-125	0	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1000	1000	100	100	75-125	0	20	
Barium, Dissolved	ug/L	60.2	1000	1000	1050	1060	99	100	75-125	0	20	
Beryllium, Dissolved	ug/L	0.13J	1000	1000	994	998	99	100	75-125	0	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	993	994	99	99	75-125	0	20	
Calcium, Dissolved	ug/L	63400	20000	20000	82600	83600	96	101	75-125	1	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	967	971	97	97	75-125	0	20	
Cobalt, Dissolved	ug/L	1.5J	1000	1000	967	972	97	97	75-125	0	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	974	977	97	98	75-125	0	20	
Iron, Dissolved	ug/L	31.4J	20000	20000	19300	19300	96	97	75-125	0	20	
Lead, Dissolved	ug/L	<1.9	1000	1000	987	995	99	99	75-125	1	20	
Magnesium, Dissolved	ug/L	14200	20000	20000	33900	34200	99	100	75-125	1	20	
Manganese, Dissolved	ug/L	220	1000	1000	1190	1200	97	98	75-125	1	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	964	967	96	97	75-125	0	20	
Potassium, Dissolved	ug/L	1140J	20000	20000	21000	21100	99	100	75-125	0	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1020	1020	102	102	75-125	0	20	
Silver, Dissolved	ug/L	<0.28	500	500	492	494	98	99	75-125	0	20	
Sodium, Dissolved	ug/L	12400	20000	20000	31300	31600	94	96	75-125	1	20	
Thallium, Dissolved	ug/L	<3.8	1000	1000	931	940	93	94	75-125	1	20	
Vanadium, Dissolved	ug/L	1.5J	1000	1000	1000	1000	100	100	75-125	0	20	
Zinc, Dissolved	ug/L	26.1	1000	1000	1020	1030	100	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 450816 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372168001, 10372168002, 10372168005, 10372168006

METHOD BLANK: 2468378 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168005, 10372168006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/08/16 23:58	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/08/16 23:58	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/08/16 23:58	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/08/16 23:58	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/08/16 23:58	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/08/16 23:58	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/08/16 23:58	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/08/16 23:58	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/08/16 23:58	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/08/16 23:58	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/08/16 23:58	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/08/16 23:58	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/08/16 23:58	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/08/16 23:58	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/08/16 23:58	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/08/16 23:58	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/08/16 23:58	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/08/16 23:58	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/08/16 23:58	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/08/16 23:58	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/08/16 23:58	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/08/16 23:58	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/08/16 23:58	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/08/16 23:58	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/08/16 23:58	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/08/16 23:58	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/08/16 23:58	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/08/16 23:58	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/08/16 23:58	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/08/16 23:58	
Acetone	ug/L	<0.64	20.0	0.64	12/08/16 23:58	
Acrolein	ug/L	<2.1	10.0	2.1	12/08/16 23:58	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/08/16 23:58	
Benzene	ug/L	<0.042	0.50	0.042	12/08/16 23:58	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/08/16 23:58	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/08/16 23:58	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/08/16 23:58	
Bromoform	ug/L	<0.11	4.0	0.11	12/08/16 23:58	
Bromomethane	ug/L	<0.20	4.0	0.20	12/08/16 23:58	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/08/16 23:58	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/08/16 23:58	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

METHOD BLANK: 2468378 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168005, 10372168006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/08/16 23:58	
Chloroethane	ug/L	<0.12	1.0	0.12	12/08/16 23:58	
Chloroform	ug/L	<0.21	1.0	0.21	12/08/16 23:58	
Chloromethane	ug/L	<0.080	4.0	0.080	12/08/16 23:58	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/08/16 23:58	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/08/16 23:58	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/08/16 23:58	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/08/16 23:58	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/08/16 23:58	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/08/16 23:58	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/08/16 23:58	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/08/16 23:58	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/08/16 23:58	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/08/16 23:58	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/08/16 23:58	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/08/16 23:58	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/08/16 23:58	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/08/16 23:58	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/08/16 23:58	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/08/16 23:58	
Naphthalene	ug/L	<0.064	1.0	0.064	12/08/16 23:58	
o-Xylene	ug/L	<0.044	0.50	0.044	12/08/16 23:58	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/08/16 23:58	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/08/16 23:58	
Styrene	ug/L	<0.056	0.50	0.056	12/08/16 23:58	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/08/16 23:58	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/08/16 23:58	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/08/16 23:58	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/08/16 23:58	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/08/16 23:58	
Toluene	ug/L	<0.059	0.50	0.059	12/08/16 23:58	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/08/16 23:58	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/08/16 23:58	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/08/16 23:58	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/08/16 23:58	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/08/16 23:58	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/08/16 23:58	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/08/16 23:58	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/08/16 23:58	
1,2-Dichloroethane-d4 (S)	%	112	75-125		12/08/16 23:58	
4-Bromofluorobenzene (S)	%	100	75-125		12/08/16 23:58	
Toluene-d8 (S)	%	102	75-125		12/08/16 23:58	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

LABORATORY CONTROL SAMPLE & LCSD: 2468379		2468380									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	24.9	25.0	124	125	75-125	1	30		
1,1,1-Trichloroethane	ug/L	20	21.9	22.4	109	112	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	22.8	23.3	114	116	67-131	2	30		
1,1,2-Trichloroethane	ug/L	20	21.6	22.2	108	111	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.0	21.5	105	107	75-125	2	30		
1,1-Dichloroethane	ug/L	20	19.9	20.4	99	102	74-125	2	30		
1,1-Dichloroethene	ug/L	20	20.7	20.5	104	103	74-125	1	30		
1,1-Dichloropropene	ug/L	20	19.3	19.8	97	99	74-125	2	30		
1,2,3-Trichlorobenzene	ug/L	20	19.8	20.7	99	104	63-131	5	30		
1,2,3-Trichloropropane	ug/L	20	20.7	20.4	103	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	18.8	19.5	94	98	66-126	4	30		
1,2,4-Trimethylbenzene	ug/L	20	20.6	20.9	103	105	74-129	2	30		
1,2-Dibromo-3-chloropropane	ug/L	50	54.9	55.7	110	111	54-129	1	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.8	22.0	109	110	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	20.2	20.5	101	103	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.4	20.7	102	104	75-125	1	30		
1,2-Dichloroethene (Total)	ug/L	40	38.9	40.4	97	101	75-125	4	30		
1,2-Dichloropropane	ug/L	20	19.5	20.0	98	100	75-125	2	30		
1,3,5-Trimethylbenzene	ug/L	20	21.2	21.0	106	105	73-127	1	30		
1,3-Dichlorobenzene	ug/L	20	20.9	21.1	105	105	75-125	1	30		
1,3-Dichloropropane	ug/L	20	20.0	20.3	100	101	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	20.1	20.4	100	102	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	460	442	115	110	70-130	4	30		
2,2,4-Trimethylpentane	ug/L	20	18.0	18.5	90	92	67-138	3	30		
2,2-Dichloropropane	ug/L	20	20.0	20.0	100	100	69-125	0	30		
2-Butanone (MEK)	ug/L	100	88.9	88.1	89	88	48-145	1	30		
2-Chlorotoluene	ug/L	20	19.1	19.3	96	97	74-125	1	30		
2-Hexanone	ug/L	100	96.7	96.9	97	97	63-135	0	30		
4-Chlorotoluene	ug/L	20	21.1	21.3	106	107	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.9	96.3	95	96	53-138	2	30		
Acetone	ug/L	100	89.3	85.5	89	85	70-142	4	30		
Acrolein	ug/L	200	208	227	104	114	44-150	9	30		
Acrylonitrile	ug/L	200	187	197	94	98	68-125	5	30		
Benzene	ug/L	20	18.7	18.7	94	94	65-125	0	30		
Bromobenzene	ug/L	20	20.7	20.7	104	103	75-125	0	30		
Bromochloromethane	ug/L	20	22.1	23.1	111	115	75-125	4	30		
Bromodichloromethane	ug/L	20	22.1	22.9	110	114	73-125	4	30		
Bromoform	ug/L	20	23.2	24.2	116	121	69-125	4	30		
Bromomethane	ug/L	20	18.5	21.3	93	107	40-136	14	30		
Carbon disulfide	ug/L	20	19.0	19.7	95	98	36-150	3	30		
Carbon tetrachloride	ug/L	20	25.0	25.1	125	125	70-125	0	30		
Chlorobenzene	ug/L	20	20.2	20.4	101	102	75-125	1	30		
Chloroethane	ug/L	20	22.2	23.0	111	115	67-141	3	30		
Chloroform	ug/L	20	20.2	20.2	101	101	75-125	0	30		
Chloromethane	ug/L	20	18.1	18.7	90	93	50-150	3	30		
cis-1,2-Dichloroethene	ug/L	20	19.1	20.4	96	102	75-125	7	30		
cis-1,3-Dichloropropene	ug/L	20	19.2	19.6	96	98	75-125	2	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

LABORATORY CONTROL SAMPLE & LCSD: 2468379		2468380								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	23.9	24.2	119	121	75-125	1	30	
Dibromomethane	ug/L	20	20.6	20.9	103	104	75-129	1	30	
Dichlorodifluoromethane	ug/L	20	22.9	23.8	114	119	59-135	4	30	
Dichlorofluoromethane	ug/L	20	21.7	22.4	108	112	74-130	3	30	
Diisopropyl ether	ug/L	20	18.2	18.8	91	94	71-125	3	30	
Ethyl-tert-butyl ether	ug/L	20	18.4	18.9	92	94	70-130	3	30	
Ethylbenzene	ug/L	20	20.6	20.6	103	103	75-125	0	30	
Hexachloro-1,3-butadiene	ug/L	20	23.1	23.5	115	118	72-126	2	30	
Isopropylbenzene (Cumene)	ug/L	20	20.8	21.1	104	106	71-136	2	30	
m&p-Xylene	ug/L	40	41.8	41.8	104	105	75-125	0	30	
Methyl-tert-butyl ether	ug/L	20	19.4	19.8	97	99	73-127	2	30	
Methylene Chloride	ug/L	20	20.0	19.9	100	100	68-128	0	30	
n-Butylbenzene	ug/L	20	20.5	20.5	103	103	70-126	0	30	
n-Propylbenzene	ug/L	20	20.4	20.3	102	101	67-131	0	30	
Naphthalene	ug/L	20	18.6	19.3	93	96	52-134	4	30	
o-Xylene	ug/L	20	20.2	20.8	101	104	75-125	3	30	
p-Isopropyltoluene	ug/L	20	20.8	21.2	104	106	74-125	2	30	
sec-Butylbenzene	ug/L	20	20.4	20.6	102	103	69-134	1	30	
Styrene	ug/L	20	21.3	21.4	106	107	75-125	1	30	
tert-Amylmethyl ether	ug/L	20	18.3	18.6	92	93	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	200	217	100	108	66-128	8	30	
tert-Butylbenzene	ug/L	20	20.3	20.4	101	102	71-128	1	30	
Tetrachloroethene	ug/L	20	20.7	20.2	104	101	74-125	2	30	
Tetrahydrofuran	ug/L	200	168	163	84	82	64-142	3	30	
Toluene	ug/L	20	19.1	19.1	95	95	75-125	0	30	
trans-1,2-Dichloroethene	ug/L	20	19.8	19.9	99	100	73-125	1	30	
trans-1,3-Dichloropropene	ug/L	20	20.8	21.4	104	107	75-125	3	30	
trans-1,4-Dichloro-2-butene	ug/L	50	34.2	34.9	68	70	54-133	2	30	
Trichloroethene	ug/L	20	19.8	20.0	99	100	75-125	1	30	
Trichlorofluoromethane	ug/L	20	23.5	24.3	118	121	75-126	3	30	
Vinyl acetate	ug/L	20	22.8	23.1	114	116	67-126	1	30	
Vinyl chloride	ug/L	20	20.5	21.3	103	107	72-125	4	30	
Xylene (Total)	ug/L	60	62.0	62.6	103	104	75-125	1	30	
1,2-Dichloroethane-d4 (S)	%				104	108	75-125			
4-Bromofluorobenzene (S)	%				99	100	75-125			
Toluene-d8 (S)	%				102	102	75-125			

MATRIX SPIKE SAMPLE: 2468381		1279967004	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.9	120	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	22.4	112	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.6	113	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	21.6	108	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	23.9	120	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

MATRIX SPIKE SAMPLE: 2468381		1279967004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	20.7	104	58-147	
1,1-Dichloroethene	ug/L	ND	20	22.1	110	49-150	
1,1-Dichloropropene	ug/L	ND	20	19.8	99	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.2	101	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	20.6	103	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	19.7	99	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	20.2	101	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	53.9	108	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.3	107	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	19.6	98	75-125	
1,2-Dichloroethane	ug/L	ND	20	20.1	101	63-133	
1,2-Dichloroethene (Total)	ug/L		40	40.3	101	55-146	
1,2-Dichloropropane	ug/L	ND	20	19.6	98	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	20.2	101	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	20.2	101	75-125	
1,3-Dichloropropane	ug/L	ND	20	19.4	97	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	19.6	98	70-126	
1,4-Dioxane (p-Dioxane)	ug/L		400	438	109	54-145	
2,2,4-Trimethylpentane	ug/L		20	20.4	102	30-150	
2,2-Dichloropropane	ug/L	ND	20	19.6	98	39-148	
2-Butanone (MEK)	ug/L	ND	100	89.1	89	50-144	
2-Chlorotoluene	ug/L	ND	20	18.5	93	71-135	
2-Hexanone	ug/L	ND	100	99.0	99	43-150	
4-Chlorotoluene	ug/L	ND	20	20.5	103	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	95.6	96	60-147	
Acetone	ug/L	ND	100	85.4	85	59-150	
Acrolein	ug/L	ND	200	287	143	30-150	
Acrylonitrile	ug/L		200	189	95	41-148	
Benzene	ug/L	ND	20	18.8	94	61-138	
Bromobenzene	ug/L	ND	20	20.1	101	74-130	
Bromochloromethane	ug/L	ND	20	21.5	108	65-137	
Bromodichloromethane	ug/L	ND	20	22.2	111	66-136	
Bromoform	ug/L	ND	20	22.9	115	71-125	
Bromomethane	ug/L	ND	20	22.7	113	30-150	
Carbon disulfide	ug/L	ND	20	19.9	100	30-150	
Carbon tetrachloride	ug/L	ND	20	26.0	130	68-140	
Chlorobenzene	ug/L	ND	20	19.8	99	75-132	
Chloroethane	ug/L	ND	20	24.0	120	55-150	
Chloroform	ug/L	ND	20	20.4	102	64-139	
Chloromethane	ug/L	ND	20	19.6	98	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.2	101	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	19.2	96	70-125	
Dibromochloromethane	ug/L	ND	20	23.7	119	74-125	
Dibromomethane	ug/L	ND	20	20.4	102	66-138	
Dichlorodifluoromethane	ug/L	ND	20	26.8	134	53-150	
Dichlorofluoromethane	ug/L	ND	20	23.3	117	58-150	
Diisopropyl ether	ug/L		20	18.6	93	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

MATRIX SPIKE SAMPLE: 2468381

Parameter	Units	1279967004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L		20	18.5	92	30-140	
Ethylbenzene	ug/L	ND	20	19.9	100	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	24.0	120	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	20.2	101	65-146	
m&p-Xylene	ug/L	ND	40	40.6	102	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	19.7	98	63-134	
Methylene Chloride	ug/L	ND	20	21.0	105	49-143	
n-Butylbenzene	ug/L	ND	20	20.8	104	67-134	
n-Propylbenzene	ug/L	ND	20	19.9	100	62-142	
Naphthalene	ug/L	ND	20	18.8	94	41-150	
o-Xylene	ug/L	ND	20	19.7	98	66-138	
p-Isopropyltoluene	ug/L	ND	20	20.6	103	64-137	
sec-Butylbenzene	ug/L	ND	20	20.2	101	65-142	
Styrene	ug/L	ND	20	20.4	102	61-142	
tert-Amylmethyl ether	ug/L		20	18.2	91	65-125	
tert-Butyl Alcohol	ug/L		200	216	108	59-138	
tert-Butylbenzene	ug/L	ND	20	19.7	98	69-135	
Tetrachloroethene	ug/L	ND	20	20.3	102	62-142	
Tetrahydrofuran	ug/L	ND	200	164	82	55-150	
Toluene	ug/L	ND	20	18.5	92	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	20.1	100	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	20.5	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	37.0	74	31-150	
Trichloroethene	ug/L	ND	20	19.9	100	64-142	
Trichlorofluoromethane	ug/L	ND	20	26.9	134	63-150	
Vinyl acetate	ug/L		20	21.8	109	30-150	
Vinyl chloride	ug/L	ND	20	23.0	115	58-150	
Xylene (Total)	ug/L	ND	60	60.3	101	70-140	
1,2-Dichloroethane-d4 (S)	%				107	75-125	
4-Bromofluorobenzene (S)	%				100	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2468382

Parameter	Units	1279967005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

SAMPLE DUPLICATE: 2468382

Parameter	Units	1279967005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L		<0.16		30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L		<4.8		30	
2,2,4-Trimethylpentane	ug/L		<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	22.2	13.5J		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L		<0.49		30	
Benzene	ug/L	ND	0.096J		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	ND	<0.079		30	
Chlorobenzene	ug/L	ND	<0.066		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	ND	<0.21		30	
Chloromethane	ug/L	ND	<0.080		30	
cis-1,2-Dichloroethene	ug/L	ND	<0.12		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L		<0.050		30	
Ethyl-tert-butyl ether	ug/L		<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

SAMPLE DUPLICATE: 2468382

Parameter	Units	1279967005 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	<0.097		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L		<0.073		30	
tert-Butyl Alcohol	ug/L		9.2J		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	ND	<0.13		30	
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	1.3	1.2	9	30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	
Trichloroethene	ug/L	ND	<0.044		30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L		<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	115	116	1		
4-Bromofluorobenzene (S)	%	101	101	0		
Toluene-d8 (S)	%	100	104	4		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 451019 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372168004

METHOD BLANK: 2469663 Matrix: Water
Associated Lab Samples: 10372168004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/09/16 13:28	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/09/16 13:28	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/09/16 13:28	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/09/16 13:28	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/09/16 13:28	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/09/16 13:28	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/09/16 13:28	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/09/16 13:28	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/09/16 13:28	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/09/16 13:28	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/09/16 13:28	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/09/16 13:28	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/09/16 13:28	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/09/16 13:28	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/09/16 13:28	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/09/16 13:28	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/09/16 13:28	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/09/16 13:28	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/09/16 13:28	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/09/16 13:28	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/09/16 13:28	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/09/16 13:28	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/09/16 13:28	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/09/16 13:28	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/09/16 13:28	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/09/16 13:28	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/09/16 13:28	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/09/16 13:28	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/09/16 13:28	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/09/16 13:28	
Acetone	ug/L	<0.64	20.0	0.64	12/09/16 13:28	
Acrolein	ug/L	<2.1	10.0	2.1	12/09/16 13:28	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/09/16 13:28	
Benzene	ug/L	<0.042	0.50	0.042	12/09/16 13:28	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/09/16 13:28	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/09/16 13:28	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/09/16 13:28	
Bromoform	ug/L	<0.11	4.0	0.11	12/09/16 13:28	
Bromomethane	ug/L	<0.20	4.0	0.20	12/09/16 13:28	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/09/16 13:28	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/09/16 13:28	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

METHOD BLANK: 2469663 Matrix: Water
Associated Lab Samples: 10372168004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/09/16 13:28	
Chloroethane	ug/L	<0.12	1.0	0.12	12/09/16 13:28	
Chloroform	ug/L	<0.21	1.0	0.21	12/09/16 13:28	
Chloromethane	ug/L	<0.080	4.0	0.080	12/09/16 13:28	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/09/16 13:28	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/09/16 13:28	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/09/16 13:28	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/09/16 13:28	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/09/16 13:28	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/09/16 13:28	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/09/16 13:28	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/09/16 13:28	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/09/16 13:28	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/09/16 13:28	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/09/16 13:28	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/09/16 13:28	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/09/16 13:28	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/09/16 13:28	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/09/16 13:28	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/09/16 13:28	
Naphthalene	ug/L	<0.064	1.0	0.064	12/09/16 13:28	
o-Xylene	ug/L	<0.044	0.50	0.044	12/09/16 13:28	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/09/16 13:28	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/09/16 13:28	
Styrene	ug/L	<0.056	0.50	0.056	12/09/16 13:28	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/09/16 13:28	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/09/16 13:28	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/09/16 13:28	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/09/16 13:28	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/09/16 13:28	
Toluene	ug/L	<0.059	0.50	0.059	12/09/16 13:28	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/09/16 13:28	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/09/16 13:28	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/09/16 13:28	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/09/16 13:28	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/09/16 13:28	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/09/16 13:28	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/09/16 13:28	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/09/16 13:28	
1,2-Dichloroethane-d4 (S)	%	116	75-125		12/09/16 13:28	
4-Bromofluorobenzene (S)	%	102	75-125		12/09/16 13:28	
Toluene-d8 (S)	%	102	75-125		12/09/16 13:28	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

LABORATORY CONTROL SAMPLE & LCSD: 2469664		2469665									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	24.4	23.2	122	116	75-125	5	30		
1,1,1-Trichloroethane	ug/L	20	21.2	19.7	106	99	74-125	7	30		
1,1,2,2-Tetrachloroethane	ug/L	20	23.0	22.9	115	114	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	22.3	21.7	112	108	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.6	19.3	103	96	75-125	7	30		
1,1-Dichloroethane	ug/L	20	19.4	18.5	97	92	74-125	5	30		
1,1-Dichloroethene	ug/L	20	19.6	18.6	98	93	74-125	5	30		
1,1-Dichloropropene	ug/L	20	18.5	17.4	93	87	74-125	7	30		
1,2,3-Trichlorobenzene	ug/L	20	21.1	19.8	105	99	63-131	6	30		
1,2,3-Trichloropropane	ug/L	20	21.3	21.2	107	106	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	19.5	19.5	98	97	66-126	0	30		
1,2,4-Trimethylbenzene	ug/L	20	20.3	19.0	101	95	74-129	6	30		
1,2-Dibromo-3-chloropropane	ug/L	50	58.5	57.3	117	115	54-129	2	30		
1,2-Dibromoethane (EDB)	ug/L	20	22.4	21.3	112	107	75-125	5	30		
1,2-Dichlorobenzene	ug/L	20	19.8	19.3	99	97	75-125	3	30		
1,2-Dichloroethane	ug/L	20	20.2	19.6	101	98	75-125	3	30		
1,2-Dichloroethene (Total)	ug/L	40	38.0	36.3	95	91	75-125	5	30		
1,2-Dichloropropane	ug/L	20	19.7	19.2	98	96	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	20.6	19.3	103	96	73-127	7	30		
1,3-Dichlorobenzene	ug/L	20	20.6	19.8	103	99	75-125	4	30		
1,3-Dichloropropane	ug/L	20	19.3	19.2	97	96	69-125	0	30		
1,4-Dichlorobenzene	ug/L	20	19.6	18.9	98	94	75-125	4	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	335	359	84	90	70-130	7	30		
2,2,4-Trimethylpentane	ug/L	20	19.3	18.1	97	91	67-138	6	30		
2,2-Dichloropropane	ug/L	20	21.6	20.0	108	100	69-125	8	30		
2-Butanone (MEK)	ug/L	100	97.8	92.2	98	92	48-145	6	30		
2-Chlorotoluene	ug/L	20	19.5	19.8	98	99	74-125	1	30		
2-Hexanone	ug/L	100	104	101	104	101	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.2	19.5	101	97	73-125	4	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	99.4	102	99	53-138	3	30		
Acetone	ug/L	100	76.2	83.7	76	84	70-142	9	30		
Acrolein	ug/L	200	225	230	113	115	44-150	2	30		
Acrylonitrile	ug/L	200	198	196	99	98	68-125	1	30		
Benzene	ug/L	20	17.9	17.0	90	85	65-125	5	30		
Bromobenzene	ug/L	20	20.0	19.0	100	95	75-125	5	30		
Bromochloromethane	ug/L	20	20.8	21.8	104	109	75-125	4	30		
Bromodichloromethane	ug/L	20	22.6	21.4	113	107	73-125	5	30		
Bromoform	ug/L	20	23.9	23.3	120	117	69-125	2	30		
Bromomethane	ug/L	20	14.7	17.2	74	86	40-136	16	30		
Carbon disulfide	ug/L	20	18.2	17.1	91	85	36-150	6	30		
Carbon tetrachloride	ug/L	20	23.9	22.2	119	111	70-125	7	30		
Chlorobenzene	ug/L	20	20.0	19.1	100	96	75-125	4	30		
Chloroethane	ug/L	20	21.0	19.9	105	99	67-141	6	30		
Chloroform	ug/L	20	19.7	18.4	98	92	75-125	7	30		
Chloromethane	ug/L	20	17.3	16.4	86	82	50-150	5	30		
cis-1,2-Dichloroethene	ug/L	20	19.1	18.1	95	90	75-125	5	30		
cis-1,3-Dichloropropene	ug/L	20	19.8	19.0	99	95	75-125	4	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

LABORATORY CONTROL SAMPLE & LCSD: 2469664		2469665								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	24.7	23.9	124	119	75-125	3	30	
Dibromomethane	ug/L	20	20.8	20.3	104	102	75-129	2	30	
Dichlorodifluoromethane	ug/L	20	21.7	19.9	108	100	59-135	8	30	
Dichlorofluoromethane	ug/L	20	20.9	19.7	104	98	74-130	6	30	
Diisopropyl ether	ug/L	20	17.7	17.4	89	87	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	18.2	18.1	91	91	70-130	1	30	
Ethylbenzene	ug/L	20	19.8	19.1	99	96	75-125	3	30	
Hexachloro-1,3-butadiene	ug/L	20	24.0	23.4	120	117	72-126	2	30	
Isopropylbenzene (Cumene)	ug/L	20	20.3	19.4	101	97	71-136	5	30	
m&p-Xylene	ug/L	40	40.2	38.2	100	95	75-125	5	30	
Methyl-tert-butyl ether	ug/L	20	19.5	19.3	97	96	73-127	1	30	
Methylene Chloride	ug/L	20	19.7	18.9	99	94	68-128	4	30	
n-Butylbenzene	ug/L	20	20.8	19.8	104	99	70-126	5	30	
n-Propylbenzene	ug/L	20	19.6	18.5	98	92	67-131	6	30	
Naphthalene	ug/L	20	19.2	19.3	96	96	52-134	0	30	
o-Xylene	ug/L	20	19.7	19.1	98	95	75-125	3	30	
p-Isopropyltoluene	ug/L	20	20.9	19.3	104	97	74-125	8	30	
sec-Butylbenzene	ug/L	20	20.2	19.3	101	96	69-134	5	30	
Styrene	ug/L	20	20.4	19.9	102	99	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	18.4	18.1	92	90	70-130	2	30	
tert-Butyl Alcohol	ug/L	200	174	233	87	116	66-128	29	30	
tert-Butylbenzene	ug/L	20	20.0	18.9	100	95	71-128	5	30	
Tetrachloroethene	ug/L	20	19.8	18.7	99	93	74-125	6	30	
Tetrahydrofuran	ug/L	200	145	158	73	79	64-142	9	30	
Toluene	ug/L	20	18.4	17.2	92	86	75-125	7	30	
trans-1,2-Dichloroethene	ug/L	20	19.0	18.2	95	91	73-125	4	30	
trans-1,3-Dichloropropene	ug/L	20	21.3	21.5	106	108	75-125	1	30	
trans-1,4-Dichloro-2-butene	ug/L	50	37.0	39.0	74	78	54-133	5	30	
Trichloroethene	ug/L	20	19.5	18.4	97	92	75-125	6	30	
Trichlorofluoromethane	ug/L	20	22.4	21.0	112	105	75-126	7	30	
Vinyl acetate	ug/L	20	23.1	22.7	116	113	67-126	2	30	
Vinyl chloride	ug/L	20	19.4	18.2	97	91	72-125	7	30	
Xylene (Total)	ug/L	60	59.8	57.3	100	95	75-125	4	30	
1,2-Dichloroethane-d4 (S)	%				106	105	75-125			
4-Bromofluorobenzene (S)	%				97	97	75-125			
Toluene-d8 (S)	%				100	102	75-125			

MATRIX SPIKE SAMPLE: 2469666		1280157001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.2	116	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	22.6	113	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	21.2	106	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	20.7	104	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	25.8	129	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

MATRIX SPIKE SAMPLE: 2469666		1280157001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	20.3	101	58-147	
1,1-Dichloroethene	ug/L	ND	20	21.9	110	49-150	
1,1-Dichloropropene	ug/L	ND	20	19.9	100	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	19.7	99	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	18.9	94	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	19.5	97	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	19.6	98	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	51.2	102	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20.9	104	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	19.1	95	75-125	
1,2-Dichloroethane	ug/L	ND	20	20.2	101	63-133	
1,2-Dichloroethene (Total)	ug/L	ND	40	40.5	101	55-146	
1,2-Dichloropropane	ug/L	ND	20	18.8	94	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	20.0	100	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	19.9	99	75-125	
1,3-Dichloropropane	ug/L	ND	20	18.9	95	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	19.3	97	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	100	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	23.4	117	30-150	
2,2-Dichloropropane	ug/L	ND	20	22.8	114	39-148	
2-Butanone (MEK)	ug/L	ND	100	81.9	82	50-144	
2-Chlorotoluene	ug/L	ND	20	20.3	102	71-135	
2-Hexanone	ug/L	ND	100	89.4	89	43-150	
4-Chlorotoluene	ug/L	ND	20	20.0	100	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	88.0	88	60-147	
Acetone	ug/L	ND	100	84.2	84	59-150	
Acrolein	ug/L	ND	200	220	110	30-150	
Acrylonitrile	ug/L	ND	200	179	89	41-148	
Benzene	ug/L	ND	20	18.8	94	61-138	
Bromobenzene	ug/L	ND	20	19.3	97	74-130	
Bromochloromethane	ug/L	ND	20	20.6	103	65-137	
Bromodichloromethane	ug/L	ND	20	21.5	108	66-136	
Bromoform	ug/L	ND	20	22.8	114	71-125	
Bromomethane	ug/L	ND	20	20.7	103	30-150	
Carbon disulfide	ug/L	ND	20	20.8	104	30-150	
Carbon tetrachloride	ug/L	ND	20	27.0	135	68-140	
Chlorobenzene	ug/L	ND	20	19.2	96	75-132	
Chloroethane	ug/L	ND	20	22.9	114	55-150	
Chloroform	ug/L	ND	20	20.3	101	64-139	
Chloromethane	ug/L	ND	20	18.8	94	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.1	100	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	19.1	96	70-125	
Dibromochloromethane	ug/L	ND	20	23.5	117	74-125	
Dibromomethane	ug/L	ND	20	19.2	96	66-138	
Dichlorodifluoromethane	ug/L	ND	20	26.3	132	53-150	
Dichlorofluoromethane	ug/L	ND	20	22.2	111	58-150	
Diisopropyl ether	ug/L	ND	20	17.8	89	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

MATRIX SPIKE SAMPLE: 2469666		1280157001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	18.0	90	30-140	
Ethylbenzene	ug/L	ND	20	19.9	99	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	26.8	134	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	19.8	99	65-146	
m&p-Xylene	ug/L	ND	40	40.0	100	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	18.6	93	63-134	
Methylene Chloride	ug/L	ND	20	20.2	101	49-143	
n-Butylbenzene	ug/L	ND	20	21.3	106	67-134	
n-Propylbenzene	ug/L	ND	20	19.4	97	62-142	
Naphthalene	ug/L	ND	20	17.8	89	41-150	
o-Xylene	ug/L	ND	20	19.4	97	66-138	
p-Isopropyltoluene	ug/L	ND	20	20.6	103	64-137	
sec-Butylbenzene	ug/L	ND	20	20.4	102	65-142	
Styrene	ug/L	ND	20	19.7	99	61-142	
tert-Amylmethyl ether	ug/L	ND	20	17.5	87	65-125	
tert-Butyl Alcohol	ug/L	ND	200	201	101	59-138	
tert-Butylbenzene	ug/L	ND	20	19.9	99	69-135	
Tetrachloroethene	ug/L	ND	20	20.5	103	62-142	
Tetrahydrofuran	ug/L	ND	200	159	80	55-150	
Toluene	ug/L	ND	20	18.6	93	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	20.4	102	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	20.9	105	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	34.6	69	31-150	
Trichloroethene	ug/L	ND	20	19.9	98	64-142	
Trichlorofluoromethane	ug/L	ND	20	26.4	132	63-150	
Vinyl acetate	ug/L	ND	20	22.3	112	30-150	
Vinyl chloride	ug/L	ND	20	21.9	110	58-150	
Xylene (Total)	ug/L	ND	60	59.4	99	70-140	
1,2-Dichloroethane-d4 (S)	%				108	75-125	
4-Bromofluorobenzene (S)	%				99	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2469667

Parameter	Units	1280157002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

SAMPLE DUPLICATE: 2469667

Parameter	Units	1280157002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	ND	0.41J		30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	<0.64		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	ND	<0.079		30	
Chlorobenzene	ug/L	ND	<0.066		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	ND	<0.21		30	
Chloromethane	ug/L	ND	<0.080		30	
cis-1,2-Dichloroethene	ug/L	ND	0.41J		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

SAMPLE DUPLICATE: 2469667

Parameter	Units	1280157002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	0.28J		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	3.5	3.6	2	30	
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	
Trichloroethene	ug/L	1.3	1.3	4	30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	114	116	2		
4-Bromofluorobenzene (S)	%	101	100	1		
Toluene-d8 (S)	%	100	99	1		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

QC Batch: 450587

Analysis Method: Hach 10360 Rev 1.1

QC Batch Method: Hach 10360

Analysis Description: Hach 10360 Rev 1.1, BOD

Associated Lab Samples: 10372168001, 10372168003

METHOD BLANK: 2467397

Matrix: Water

Associated Lab Samples: 10372168001, 10372168003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	<1.0	2.0	1.0	12/12/16 14:17	

LABORATORY CONTROL SAMPLE: 2467399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	195	98	85-115	B6

SAMPLE DUPLICATE: 2467400

Parameter	Units	10372275001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	<1.0		20	B6

SAMPLE DUPLICATE: 2468033

Parameter	Units	10372325001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	66.1	60.9	8	20	B6

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

QC Batch: 451159 Analysis Method: SM 2320B
 QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
 Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 2470358 Matrix: Water
 Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	12/10/16 10:22	

LABORATORY CONTROL SAMPLE & LCSD: 2470359 2470360

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	43.8	41.9	109	105	90-110	4	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2470361 2470362

Parameter	Units	10372168001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	91.2	40	40	128	128	93	93	80-120	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 69514 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 289870 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/08/16 15:22	

LABORATORY CONTROL SAMPLE: 289871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.22	108	90-110	

MATRIX SPIKE SAMPLE: 289873

Parameter	Units	2046869001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.15	72	75-125	M1

SAMPLE DUPLICATE: 289872

Parameter	Units	2046869001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.0067J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 450511 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 2466866 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/06/16 19:00	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/06/16 19:00	
Sulfate	mg/L	<0.16	1.2	0.16	12/06/16 19:00	

LABORATORY CONTROL SAMPLE: 2466867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.1	97	90-110	
Nitrate as N	mg/L	1	0.90	90	90-110	
Sulfate	mg/L	12.5	12.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2466868 2466869

Parameter	Units	10372070002		2466868		2466869		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MS Result	MS Spike Conc.	MS Result	MS Spike Conc.						
Chloride	mg/L	<0.10	12.5	12.5	12.5	12.0	12.0	96	96	90-110	0	20	
Nitrate as N	mg/L	<0.013	1	1	1	0.90	0.90	90	90	90-110	0	20	
Sulfate	mg/L	<0.16	12.5	12.5	12.5	11.9	11.8	95	95	90-110	0	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 451915 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 10372168001, 10372168003

METHOD BLANK: 2474406 Matrix: Water
Associated Lab Samples: 10372168001, 10372168003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	<5.4	50.0	5.4	12/15/16 14:32	

LABORATORY CONTROL SAMPLE: 2474407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	306	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474408 2474409

Parameter	Units	10371849001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Chemical Oxygen Demand	mg/L	1740	2500	2500	4110	4080	95	94	90-110	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474410 2474411

Parameter	Units	10371849002		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec					
Chemical Oxygen Demand	mg/L	2050	2500	2500	4430	4370	95	93	90-110	1	20		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

QC Batch: 101728 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

METHOD BLANK: 404501 Matrix: Water
Associated Lab Samples: 10372168001, 10372168002, 10372168004, 10372168005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/09/16 02:30	

LABORATORY CONTROL SAMPLE: 404502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.4	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 404503 404504

Parameter	Units	10372292001 Result	MS		MSD		% Rec	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result							
Total Organic Carbon	mg/L	11.0	25	25	36.4	36.5	102	102	80-120	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 404505 404506

Parameter	Units	10372292002 Result	MS		MSD		% Rec	MSD	% Rec	Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result							
Total Organic Carbon	mg/L	6.9	25	25	32.1	32.6	101	103	80-120	2	20		

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 450816

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: 451019

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B6 The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372168

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10372168

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10372168001	MW9S-GW-120516	RSK 175	450814		
10372168002	MW8S-GW-120516	RSK 175	450814		
10372168004	MW6S-GW-120516	RSK 175	450814		
10372168005	MW12S-GW-120516	RSK 175	450814		
10372168001	MW9S-GW-120516	EPA 3010	451494	6010C Met	451518
10372168002	MW8S-GW-120516	EPA 3010	451494	6010C Met	451518
10372168004	MW6S-GW-120516	EPA 3010	451494	6010C Met	451518
10372168005	MW12S-GW-120516	EPA 3010	451494	6010C Met	451518
10372168001	MW9S-GW-120516	EPA 7470A	451693	EPA 7470A	451805
10372168002	MW8S-GW-120516	EPA 7470A	451693	EPA 7470A	451805
10372168004	MW6S-GW-120516	EPA 7470A	451693	EPA 7470A	451805
10372168005	MW12S-GW-120516	EPA 7470A	451693	EPA 7470A	451805
10372168001	MW9S-GW-120516	EPA 8260B	450816		
10372168002	MW8S-GW-120516	EPA 8260B	450816		
10372168004	MW6S-GW-120516	EPA 8260B	451019		
10372168005	MW12S-GW-120516	EPA 8260B	450816		
10372168006	Trip Blank	EPA 8260B	450816		
10372168001	MW9S-GW-120516	Hach 10360	450587	Hach 10360 Rev 1.1	450741
10372168003	MW9S-GW-FD-120516	Hach 10360	450587	Hach 10360 Rev 1.1	450741
10372168001	MW9S-GW-120516	SM 2320B	451159		
10372168002	MW8S-GW-120516	SM 2320B	451159		
10372168004	MW6S-GW-120516	SM 2320B	451159		
10372168005	MW12S-GW-120516	SM 2320B	451159		
10372168001	MW9S-GW-120516	SM 4500-S-2 D	69514		
10372168002	MW8S-GW-120516	SM 4500-S-2 D	69514		
10372168004	MW6S-GW-120516	SM 4500-S-2 D	69514		
10372168005	MW12S-GW-120516	SM 4500-S-2 D	69514		
10372168001	MW9S-GW-120516	EPA 300.0	450511		
10372168002	MW8S-GW-120516	EPA 300.0	450511		
10372168004	MW6S-GW-120516	EPA 300.0	450511		
10372168005	MW12S-GW-120516	EPA 300.0	450511		
10372168001	MW9S-GW-120516	EPA 410.4	451915	EPA 410.4	452033
10372168003	MW9S-GW-FD-120516	EPA 410.4	451915	EPA 410.4	452033
10372168001	MW9S-GW-120516	SM 5310C	101728		
10372168002	MW8S-GW-120516	SM 5310C	101728		
10372168004	MW6S-GW-120516	SM 5310C	101728		
10372168005	MW12S-GW-120516	SM 5310C	101728		

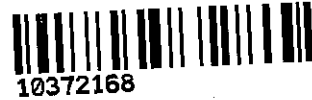
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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: UPRR CH2M Freeman

Project #: **WO#: 10372168**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other:

Tracking Number: 7096 3370 960519696

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No

Thermometer Used: 151401163 B88A912167504 B88A0143310098
 151401164 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.2, 1.0 Cooler Temp Corrected (°C): 0.2, 1.0 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: Three Date and Initials of Person Examining Contents: 12-6-16/AT

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH <input checked="" type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>1, 2, 4, 5</u>
(HNO ₃ , H ₂ SO ₄ , HCl < 2; NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>1, 3</u> <u>1/2</u> <u>12/16</u>
Per method, VOA pH is checked after analysis	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>103981</u>	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>1110</u> Temp: <u>0.2</u>	Corrected Temp: <u>0.2</u>
Time: <u>1130</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS

Date: 12/06/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2046859



Workorder: 10372168

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 12/6/2016

Results Requested By: 12/20/2016

Report To		Subcontract To				Requested Analysis																				
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																								
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers							4500 Sulfide	LAB USE ONLY												
						Other																				
1	MW95-GW-120516	PS	12/5/2016 09:45	10372168001	Water	1								X												
2	MW85-GW-120516	PS	12/5/2016 12:00	10372168002	Water	1								X												
3	MW65-GW-120516	PS	12/5/2016 13:10	10372168004	Water	1								X												
4	MW12S-GW-120516	PS	12/5/2016 14:15	10372168005	Water	1								X												
5																										
Transfers														Comments												
Released By	Date/Time	Received By	Date/Time	BP2Z																						
<i>[Signature]</i> Pace MN	12/6/16 1315	<i>[Signature]</i> FIDEY																								
<i>[Signature]</i> KOEY	12-7-16 850	<i>[Signature]</i> J-C/KAC	12-7-16 850																							
Cooler Temperature on Receipt 10 °C		Custody Seal Y or N		Received on Ice Y or N		Samples Intact Y or N																				

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

WO#: 2046859

PM: ADC Due Date: 12/20/16

CLIENT: PASI-MINN

Project #

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-7-16 ADC

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G). <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm): <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form
 Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
 Page 1 of 1
 Issuing Authority:
 Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace MN

Project #: **WO# : 1279977**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: Hotpac Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.8 Cooler Temp Corrected °C: 2.1 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: 0.3 Date and Initials of Person Examining Contents: JPK 12/6/16

Comments: CA 12-7-16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrigan

Date: 12/8/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

December 21, 2016

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney Street
Seattle, WA 98108

RE: **1497 UPRR_FREEMAN**

Pace Workorder: 21202

Dear Jennifer Gross:

Enclosed are the analytical results for sample(s) received by the laboratory on Wednesday, December 07, 2016. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 12/21/2016
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email PAESfeedback@pacelabs.com.

Total Number of Pages 12

Report ID: 21202 - 876656

Page 1 of 7



CERTIFICATE OF ANALYSIS

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	West Virginia Department of Environmental Protection, Division of Water and Waste Management
Accreditation ID:	395
Scope:	Non-Potable Water
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 21202 1497 UPRR_FREEMAN

Lab ID	Sample ID	Matrix	Date Collected	Date Received
212020001	MW95-GW-120516	Water	12/5/2016 09:45	12/7/2016 12:30
212020002	MW95-GW-FD-120516	Water	12/5/2016 09:50	12/7/2016 12:30



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 220 William Pitt Way
 Pittsburgh, PA 15238
 Phone: (412) 826-5245
 Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21202 1497 UPRR_FREEMAN

Lab ID: **212020001** Date Received: 12/7/2016 12:30 Matrix: Water
 Sample ID: **MW95-GW-120516** Date Collected: 12/5/2016 09:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
Compound Specific Isotopic - PAES								
Analysis Desc: AM24			Analytical Method: AM24					
Carbon 13 Isotope	Complete				1	12/20/2016 00:00	CS	



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 Pittsburgh, PA 15238
 Phone: (412) 826-5245
 Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 21202 1497 UPRR_FREEMAN

Lab ID: **21202002** Date Received: 12/7/2016 12:30 Matrix: Water
 Sample ID: **MW95-GW-FD-120516** Date Collected: 12/5/2016 09:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
Compound Specific Isotopic - PAES								
Analysis Desc: AM24			Analytical Method: AM24					
Carbon 13 Isotope	Complete				1	12/20/2016 00:00	CS	



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ANALYTICAL RESULTS QUALIFIERS

Workorder: 21202 1497 UPRR_FREEMAN

DEFINITIONS/QUALIFIERS

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).



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220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 21202 1497 UPRR_FREEMAN

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
212020001	MW95-GW-120516			AM24	CSIA/1518
212020002	MW95-GW-FD-120516			AM24	CSIA/1518



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Client: Pace Analytical Seattle
596 Industry Dr, Suite 602
Tukwila, WA 98188
Project: 1497 UPRR Freeman
Project # 10372168
Report to: Jennifer Gross
jennifer.gross@pacelabs.com

Pace Analytical Energy Services
220 William Pitt Way
Pittsburgh, PA 15238
412-826-5245
www.microseeps.com

Report of Isotope Analysis

Water samples for $\delta^{13}\text{C}$ (‰, PDB) isotopic ratios

Lab Sample Number	Client's Sample ID	$\delta^{13}\text{C}$ CT
212020001	MW95-GW-120516	-42.82
212020002	MW95-GW-FD120516	-42.85

ND: Ratio Not Determined

N/A: Sample Not Analyzed

CT: Carbon Tetrachloride

Method: Compound Specific Isotope Analysis for ^{13}C and ^2H by GC-IRMS, for ^{37}Cl by GC-qMS

Quality Control STDs	$\delta^{13}\text{C}$ CT
QC-1	-45.00
QC-2	-45.93
Mean	-45.46
Analytical Precision (1σ)	0.66

Pace Analytical Energy Services
 220 William Pitt Way
 Pittsburgh, PA 15238
 phone: 412-826-5245
 Project receipt da

12/7/2016

CSIA Report

Carbon

Report date: 20-Dec-16
 21202
 Pace Analytical Seattle
 Client Project Name: 1497 UPRR Freeman
 Client Project #: 10372168

Carbon Tetrachloride		Concentration			CSIA (Carbon)					
		(ug/l)			Area		Co-elution	Analysis	Date	Delta (‰)
Lab ID	Client ID	Sample	PQL	Date	Sample	PQL				
212020001	MW95-GW-120516	1000	10	12/9/16	4.38	1	No	7589	12/19/16	-42.82
212020002	MW95-GW-FD120516	1000	10	12/9/16	4.30	1	No	7591	12/20/16	-42.85
Duplicate	MW95-GW-120516	-	-	-	4.26	1	No	7590	12/20/16	-43.13
Blank	-	0	-	-	<1 (U)	1	No	7589	12/19/16	-
LCS_Lo	-	10	-	-	2.22	1	No	7587	12/19/16	-45.00
LCS_Hi	-	50	-	-	10.6	1	No	7588	12/19/16	-45.93
LCS acceptance range								-45.33	<=>	-46.33

Method	8260B	SOP-PAE-CSIA-004	SOP-PAE-CSIA-004
Units	ug/l	Vs	‰, VPDB
Analyst	PACE - MN	CJS	CJS

Pace Analytical Energy Services
 220 William Pitt Way
 Pittsburgh, PA 15238
 phone: 412-826-5245
 Project receipt da

12/7/2016

CSIA Report Carbon

Report date: 20-Dec-16
 21202
 Pace Analytical Seattle
 Client Project Name: 1497 UPRR Freeman
 Client Project #: 10372168

1CP (Surr.)		Sample Collection	CSIA (Carbon)						
			Area	Dilution	PQL	Co-elution	Analysis	Date	Delta (‰)
Lab ID	Client ID								
212020001	MW95-GW-120516	12/05/16	12.1	50	1	No	7589	12/19/16	-27.23
212020002	MW95-GW-FD120516	12/05/16	12.0	50	1	No	7591	12/20/16	-26.66
Duplicate	MW95-GW-120516	12/05/16	12.4	50	1	No	7590	12/20/16	-27.22
Blank	-	-	12.7	1	1	No	7589	12/19/16	-27.04
LCS_Lo	-	-	12.3	1	1	No	7587	12/19/16	-26.71
LCS_Hi	-	-	12.5	1	1	No	7588	12/19/16	-27.04
Surrogate acceptance range							-26.18	<=>	-27.18

Method		AM-24-AR_C	AM-24-DL_C
Units		Vs	‰, VPDB
Analyst		CJS	CJS

Case Narrative: The blank, LCS's, duplicate and surrogates were all close to or within the acceptance range and the data is reported as valid and representative of the samples as received.

Chain of Custody

21202



Workorder: 10372168

Workorder Name: 1497 UPRR_Freeman

Results Requested By: 12/20/2016

Report / Invoice To		Subcontract To				Requested Analysis												
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060 Email: jennifer.gross@pacelabs.com		Pace Energy Services Ruth Welsh P.O. 10372168																
State of Sample Origin: WA		Preserved Containers										CSIA - Carbon		LAB USE ONLY				
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	HCL													
1	MW95-GW-120516	12/5/2016 09:45	10372168001	Water	9													X
2	MW95-GW-FD-120516	12/5/2016 09:50	10372168003	Water	9													X
3																		
4																		
														Comments				
Transfers	Released By	Date/Time	Received By	Date/Time	Send vials 4 of 12 through 12 of 12													
1	<i>Anna Asp</i> Pace MN	12/6/16 1315	<i>LOSM PAS</i>	12-7-16														
2				1230														
3																		
Cooler Temperature on Receipt		4 °C	Custody Seal		Y or N	Received on Ice		Y or N	Samples Intact						Y or N			

Cooler Receipt Form

Client Name: Pace - WA Project: 1497 UPRR - Freeman Lab Work Order: 21202

A. Shipping/Container Information (circle appropriate response)

Courier: FedEx UPS USPS Client Other: _____ Air bill Present: Yes No

Tracking Number: 675158220798

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: _____

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 4°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: _____

B. Laboratory Assignment/Log-in (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished		✓		
Sampler Name & Signature on COC			✓	
Containers intact	✓			
Were samples in separate bags	✓			
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used		✓		
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: _____

Cooler contents examined/received by: LY Date: 12.7.16

Project Manager Review: RW Date: 12-9-16

December 22, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

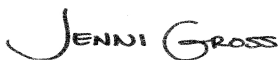
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 08, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10372484001	MW7S-GW-120716	Water	12/07/16 09:30	12/08/16 10:00
10372484002	MW10S-GW-120716	Water	12/07/16 11:45	12/08/16 10:00
10372484003	MW11S-GW-120716	Water	12/07/16 13:50	12/08/16 10:00
10372484004	WS5-GW-IN-120716	Water	12/07/16 12:55	12/08/16 10:00
10372484005	WS5-GW-EF-120716	Water	12/07/16 13:00	12/08/16 10:00
10372484006	Trip Blank	Water	12/07/16 00:00	12/08/16 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10372484001	MW7S-GW-120716	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10372484002	MW10S-GW-120716	SM 5310C	CSD	1	PASI-V
		RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
10372484003	MW11S-GW-120716	EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
		RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
10372484004	WS5-GW-IN-120716	SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
		RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
10372484005	WS5-GW-EF-120716	SM 2320B	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10372484006	Trip Blank	SM 5310C	CSD	1	PASI-V
		EPA 8260B	DJB	83	PASI-M
		EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10372484001	MW7S-GW-120716					
RSK 175	Methane	1.6J	ug/L	10.0	12/12/16 12:16	
6010C Met	Aluminum, Dissolved	36.3J	ug/L	200	12/12/16 12:58	
6010C Met	Arsenic, Dissolved	2.9J	ug/L	20.0	12/12/16 12:58	
6010C Met	Barium, Dissolved	17.8	ug/L	10.0	12/12/16 12:58	
6010C Met	Calcium, Dissolved	42800	ug/L	500	12/12/16 12:58	
6010C Met	Cobalt, Dissolved	0.67J	ug/L	10.0	12/12/16 12:58	
6010C Met	Iron, Dissolved	59.1	ug/L	50.0	12/12/16 12:58	
6010C Met	Magnesium, Dissolved	10600	ug/L	500	12/12/16 12:58	
6010C Met	Manganese, Dissolved	50.6	ug/L	5.0	12/12/16 12:58	
6010C Met	Potassium, Dissolved	439J	ug/L	2500	12/12/16 12:58	
6010C Met	Sodium, Dissolved	12100	ug/L	1000	12/12/16 12:58	
6010C Met	Vanadium, Dissolved	1.8J	ug/L	15.0	12/12/16 12:58	
6010C Met	Zinc, Dissolved	15.2J	ug/L	20.0	12/12/16 12:58	
EPA 8260B	Carbon tetrachloride	1.4	ug/L	1.0	12/19/16 14:37	
SM 2320B	Alkalinity, Total as CaCO3	113	mg/L	5.0	12/16/16 12:25	
EPA 300.0	Chloride	10.7	mg/L	1.2	12/08/16 16:21	M1
EPA 300.0	Nitrate as N	7.6	mg/L	0.10	12/08/16 16:21	M1
EPA 300.0	Sulfate	22.7	mg/L	1.2	12/08/16 16:21	M1
SM 5310C	Total Organic Carbon	0.77J	mg/L	1.0	12/16/16 16:04	
10372484002	MW10S-GW-120716					
RSK 175	Methane	4.2J	ug/L	10.0	12/12/16 12:24	
6010C Met	Arsenic, Dissolved	3.4J	ug/L	20.0	12/12/16 13:01	
6010C Met	Barium, Dissolved	80.9	ug/L	10.0	12/12/16 13:01	
6010C Met	Calcium, Dissolved	77300	ug/L	500	12/12/16 13:01	
6010C Met	Cobalt, Dissolved	2.6J	ug/L	10.0	12/12/16 13:01	
6010C Met	Lead, Dissolved	2.0J	ug/L	10.0	12/12/16 13:01	
6010C Met	Magnesium, Dissolved	21100	ug/L	500	12/12/16 13:01	
6010C Met	Manganese, Dissolved	431	ug/L	5.0	12/12/16 13:01	
6010C Met	Nickel, Dissolved	5.2J	ug/L	20.0	12/12/16 13:01	
6010C Met	Potassium, Dissolved	623J	ug/L	2500	12/12/16 13:01	
6010C Met	Sodium, Dissolved	13800	ug/L	1000	12/12/16 13:01	
6010C Met	Vanadium, Dissolved	3.2J	ug/L	15.0	12/12/16 13:01	
6010C Met	Zinc, Dissolved	28.1	ug/L	20.0	12/12/16 13:01	
EPA 8260B	Carbon tetrachloride	25.8	ug/L	1.0	12/10/16 08:34	L1
EPA 8260B	Chloroform	1.1	ug/L	1.0	12/10/16 08:34	
SM 2320B	Alkalinity, Total as CaCO3	308	mg/L	5.0	12/17/16 15:33	M1
EPA 300.0	Chloride	1.1J	mg/L	1.2	12/08/16 17:23	
EPA 300.0	Nitrate as N	0.18	mg/L	0.10	12/08/16 17:23	M1
EPA 300.0	Sulfate	2.7	mg/L	1.2	12/08/16 17:23	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	12/16/16 16:47	
10372484003	MW11S-GW-120716					
RSK 175	Methane	2.0J	ug/L	10.0	12/12/16 12:32	
6010C Met	Aluminum, Dissolved	396	ug/L	200	12/12/16 13:03	
6010C Met	Arsenic, Dissolved	2.8J	ug/L	20.0	12/12/16 13:03	
6010C Met	Barium, Dissolved	72.4	ug/L	10.0	12/12/16 13:03	
6010C Met	Calcium, Dissolved	47000	ug/L	500	12/12/16 13:03	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10372484003	MW11S-GW-120716					
6010C Met	Cobalt, Dissolved	3.2J	ug/L	10.0	12/12/16 13:03	
6010C Met	Iron, Dissolved	643	ug/L	50.0	12/12/16 13:03	
6010C Met	Magnesium, Dissolved	13200	ug/L	500	12/12/16 13:03	
6010C Met	Manganese, Dissolved	620	ug/L	5.0	12/12/16 13:03	
6010C Met	Potassium, Dissolved	902J	ug/L	2500	12/12/16 13:03	
6010C Met	Sodium, Dissolved	19800	ug/L	1000	12/12/16 13:03	
6010C Met	Vanadium, Dissolved	5.2J	ug/L	15.0	12/12/16 13:03	
6010C Met	Zinc, Dissolved	17.0J	ug/L	20.0	12/12/16 13:03	
EPA 8260B	Chloroform	0.33J	ug/L	1.0	12/10/16 08:56	
SM 2320B	Alkalinity, Total as CaCO3	213	mg/L	5.0	12/17/16 15:48	
EPA 300.0	Chloride	1.1J	mg/L	1.2	12/08/16 18:26	
EPA 300.0	Nitrate as N	0.048J	mg/L	0.10	12/08/16 18:26	
EPA 300.0	Sulfate	2.8	mg/L	1.2	12/08/16 18:26	
SM 5310C	Total Organic Carbon	1.5	mg/L	1.0	12/16/16 17:01	
10372484004	WS5-GW-IN-120716					
RSK 175	Methane	1.8J	ug/L	10.0	12/12/16 12:57	
6010C Met	Barium, Dissolved	52.1	ug/L	10.0	12/12/16 13:06	
6010C Met	Calcium, Dissolved	35300	ug/L	500	12/12/16 13:06	
6010C Met	Copper, Dissolved	7.1J	ug/L	10.0	12/12/16 13:06	
6010C Met	Magnesium, Dissolved	14500	ug/L	500	12/12/16 13:06	
6010C Met	Nickel, Dissolved	2.9J	ug/L	20.0	12/12/16 13:06	
6010C Met	Potassium, Dissolved	4390	ug/L	2500	12/12/16 13:06	
6010C Met	Sodium, Dissolved	14100	ug/L	1000	12/12/16 13:06	
6010C Met	Vanadium, Dissolved	18.4	ug/L	15.0	12/12/16 13:06	
6010C Met	Zinc, Dissolved	32.5	ug/L	20.0	12/12/16 13:06	
EPA 8260B	Carbon tetrachloride	11.6	ug/L	1.0	12/10/16 09:18	L1
EPA 8260B	Chloroform	0.55J	ug/L	1.0	12/10/16 09:18	
SM 2320B	Alkalinity, Total as CaCO3	179	mg/L	5.0	12/17/16 15:52	
EPA 300.0	Chloride	2.9	mg/L	1.2	12/08/16 18:42	
EPA 300.0	Nitrate as N	1.0	mg/L	0.10	12/08/16 18:42	
EPA 300.0	Sulfate	5.7	mg/L	1.2	12/08/16 18:42	
SM 5310C	Total Organic Carbon	0.45J	mg/L	1.0	12/16/16 17:15	
10372484005	WS5-GW-EF-120716					
EPA 8260B	Carbon tetrachloride	0.46J	ug/L	1.0	12/10/16 09:40	L1
10372484006	Trip Blank					
EPA 8260B	Acetone	0.68J	ug/L	20.0	12/10/16 02:19	
EPA 8260B	Methylene Chloride	0.31J	ug/L	4.0	12/10/16 02:19	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

Method: EPA 8260B
Description: 8260B MSV Low Level
Client: UPRR_CH2M Hill
Date: December 22, 2016

General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 451041

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2469711)
 - 1,1,1,2-Tetrachloroethane
 - Carbon tetrachloride
 - Dibromochloromethane
- LCSD (Lab ID: 2470111)
 - 1,1,1,2-Tetrachloroethane
 - Carbon tetrachloride
 - Dibromochloromethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451041

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

QC Batch: 452383

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373582004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2476552)
 - Methyl-tert-butyl ether
 - Methylene Chloride
- MSD (Lab ID: 2476553)
 - Methyl-tert-butyl ether
 - Methylene Chloride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 452383

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2476552)
 - Methyl-tert-butyl ether
- MSD (Lab ID: 2476553)
 - Methyl-tert-butyl ether

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 452127

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372525004,10373187001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2475324)
 - Alkalinity, Total as CaCO₃
- MSD (Lab ID: 2475325)
 - Alkalinity, Total as CaCO₃

QC Batch: 452257

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372484002,10372875001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2476105)
 - Alkalinity, Total as CaCO₃

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 450900

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372484001,10372484002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2468768)
 - Chloride
 - Nitrate as N
 - Sulfate
- MS (Lab ID: 2468770)
 - Nitrate as N
- MSD (Lab ID: 2468769)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2468771)
 - Nitrate as N

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW7S-GW-120716 **Lab ID: 10372484001** Collected: 12/07/16 09:30 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/12/16 12:16	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/12/16 12:16	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		12/12/16 12:16	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	36.3J	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 12:58	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:58	7440-36-0	
Arsenic, Dissolved	2.9J	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 12:58	7440-38-2	
Barium, Dissolved	17.8	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 12:58	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 12:58	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 12:58	7440-43-9	
Calcium, Dissolved	42800	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 12:58	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 12:58	7440-47-3	
Cobalt, Dissolved	0.67J	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 12:58	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 12:58	7440-50-8	
Iron, Dissolved	59.1	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 12:58	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 12:58	7439-92-1	
Magnesium, Dissolved	10600	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 12:58	7439-95-4	
Manganese, Dissolved	50.6	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 12:58	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 12:58	7440-02-0	
Potassium, Dissolved	439J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 12:58	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 12:58	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 12:58	7440-22-4	
Sodium, Dissolved	12100	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 12:58	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 12:58	7440-28-0	
Vanadium, Dissolved	1.8J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 12:58	7440-62-2	
Zinc, Dissolved	15.2J	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 12:58	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:52	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 14:37	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/19/16 14:37	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:37	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 14:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/19/16 14:37	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:37	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/19/16 14:37	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/19/16 14:37	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/19/16 14:37	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/19/16 14:37	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/19/16 14:37	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/19/16 14:37	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/19/16 14:37	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/19/16 14:37	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: **MW7S-GW-120716** Lab ID: **10372484001** Collected: 12/07/16 09:30 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/19/16 14:37	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/19/16 14:37	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/19/16 14:37	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/19/16 14:37	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/19/16 14:37	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/19/16 14:37	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/19/16 14:37	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/19/16 14:37	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/19/16 14:37	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/19/16 14:37	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/19/16 14:37	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/19/16 14:37	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/19/16 14:37	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/19/16 14:37	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/19/16 14:37	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/19/16 14:37	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/19/16 14:37	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/19/16 14:37	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/19/16 14:37	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/19/16 14:37	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/19/16 14:37	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/19/16 14:37	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/19/16 14:37	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/19/16 14:37	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/19/16 14:37	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/19/16 14:37	75-15-0	
Carbon tetrachloride	1.4	ug/L	1.0	0.079	1		12/19/16 14:37	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/19/16 14:37	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/19/16 14:37	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/19/16 14:37	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/19/16 14:37	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		12/19/16 14:37	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/19/16 14:37	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/19/16 14:37	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/19/16 14:37	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/19/16 14:37	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/19/16 14:37	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/19/16 14:37	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/19/16 14:37	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/19/16 14:37	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/19/16 14:37	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/19/16 14:37	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/19/16 14:37	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/19/16 14:37	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/19/16 14:37	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/19/16 14:37	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW7S-GW-120716 **Lab ID: 10372484001** Collected: 12/07/16 09:30 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/19/16 14:37	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/19/16 14:37	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:37	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/19/16 14:37	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/19/16 14:37	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/19/16 14:37	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/19/16 14:37	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/19/16 14:37	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/19/16 14:37	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/19/16 14:37	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/19/16 14:37	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/19/16 14:37	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/19/16 14:37	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/19/16 14:37	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/19/16 14:37	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/19/16 14:37	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/19/16 14:37	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/19/16 14:37	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/19/16 14:37	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/19/16 14:37	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		12/19/16 14:37	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/19/16 14:37	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		12/19/16 14:37	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	113	mg/L	5.0	1.4	1		12/16/16 12:25		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:42	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	10.7	mg/L	1.2	0.10	1		12/08/16 16:21	16887-00-6	M1
Nitrate as N	7.6	mg/L	0.10	0.013	1		12/08/16 16:21	14797-55-8	M1
Sulfate	22.7	mg/L	1.2	0.16	1		12/08/16 16:21	14808-79-8	M1
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	0.77J	mg/L	1.0	0.20	1		12/16/16 16:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW10S-GW-120716 **Lab ID: 10372484002** Collected: 12/07/16 11:45 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/12/16 12:24	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/12/16 12:24	74-85-1	
Methane	4.2J	ug/L	10.0	0.49	1		12/12/16 12:24	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 13:01	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 13:01	7440-36-0	
Arsenic, Dissolved	3.4J	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 13:01	7440-38-2	
Barium, Dissolved	80.9	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 13:01	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 13:01	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 13:01	7440-43-9	
Calcium, Dissolved	77300	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 13:01	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 13:01	7440-47-3	
Cobalt, Dissolved	2.6J	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 13:01	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 13:01	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 13:01	7439-89-6	
Lead, Dissolved	2.0J	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 13:01	7439-92-1	
Magnesium, Dissolved	21100	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 13:01	7439-95-4	
Manganese, Dissolved	431	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 13:01	7439-96-5	
Nickel, Dissolved	5.2J	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 13:01	7440-02-0	
Potassium, Dissolved	623J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 13:01	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 13:01	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 13:01	7440-22-4	
Sodium, Dissolved	13800	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 13:01	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 13:01	7440-28-0	
Vanadium, Dissolved	3.2J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 13:01	7440-62-2	
Zinc, Dissolved	28.1	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 13:01	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:54	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 08:34	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/10/16 08:34	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 08:34	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 08:34	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/10/16 08:34	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 08:34	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/10/16 08:34	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/10/16 08:34	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/16 08:34	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/10/16 08:34	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/16 08:34	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/10/16 08:34	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/10/16 08:34	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/10/16 08:34	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW10S-GW-120716 Lab ID: 10372484002 Collected: 12/07/16 11:45 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/10/16 08:34	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/10/16 08:34	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/10/16 08:34	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/10/16 08:34	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/10/16 08:34	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/10/16 08:34	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/10/16 08:34	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/10/16 08:34	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/10/16 08:34	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/10/16 08:34	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/10/16 08:34	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/10/16 08:34	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/10/16 08:34	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/10/16 08:34	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/10/16 08:34	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/10/16 08:34	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/10/16 08:34	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/10/16 08:34	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/10/16 08:34	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/10/16 08:34	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/10/16 08:34	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/10/16 08:34	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/10/16 08:34	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/10/16 08:34	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/10/16 08:34	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/10/16 08:34	75-15-0	
Carbon tetrachloride	25.8	ug/L	1.0	0.079	1		12/10/16 08:34	56-23-5	L1
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/10/16 08:34	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/10/16 08:34	75-00-3	
Chloroform	1.1	ug/L	1.0	0.21	1		12/10/16 08:34	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/10/16 08:34	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/10/16 08:34	124-48-1	L3
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/10/16 08:34	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/10/16 08:34	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/10/16 08:34	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/10/16 08:34	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/10/16 08:34	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/10/16 08:34	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/10/16 08:34	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/10/16 08:34	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/10/16 08:34	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/10/16 08:34	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/10/16 08:34	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/10/16 08:34	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/10/16 08:34	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/10/16 08:34	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: **MW10S-GW-120716** Lab ID: **10372484002** Collected: 12/07/16 11:45 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level									
Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/10/16 08:34	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/10/16 08:34	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/10/16 08:34	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/10/16 08:34	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/10/16 08:34	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/10/16 08:34	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/16 08:34	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/10/16 08:34	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/10/16 08:34	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/10/16 08:34	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/10/16 08:34	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/10/16 08:34	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/10/16 08:34	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/10/16 08:34	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/10/16 08:34	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/10/16 08:34	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/10/16 08:34	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/10/16 08:34	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/10/16 08:34	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/10/16 08:34	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	116	%	75-125		1		12/10/16 08:34	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		12/10/16 08:34	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		12/10/16 08:34	460-00-4	
2320B Alkalinity									
Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	308	mg/L	5.0	1.4	1		12/17/16 15:33		M1
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:43	18496-25-8	
300.0 IC Anions									
Analytical Method: EPA 300.0									
Chloride	1.1J	mg/L	1.2	0.10	1		12/08/16 17:23	16887-00-6	
Nitrate as N	0.18	mg/L	0.10	0.013	1		12/08/16 17:23	14797-55-8	M1
Sulfate	2.7	mg/L	1.2	0.16	1		12/08/16 17:23	14808-79-8	
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.6	mg/L	1.0	0.20	1		12/16/16 16:47	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW11S-GW-120716 **Lab ID: 10372484003** Collected: 12/07/16 13:50 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/12/16 12:32	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/12/16 12:32	74-85-1	
Methane	2.0J	ug/L	10.0	0.49	1		12/12/16 12:32	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	396	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 13:03	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 13:03	7440-36-0	
Arsenic, Dissolved	2.8J	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 13:03	7440-38-2	
Barium, Dissolved	72.4	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 13:03	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 13:03	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 13:03	7440-43-9	
Calcium, Dissolved	47000	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 13:03	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 13:03	7440-47-3	
Cobalt, Dissolved	3.2J	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 13:03	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 13:03	7440-50-8	
Iron, Dissolved	643	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 13:03	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 13:03	7439-92-1	
Magnesium, Dissolved	13200	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 13:03	7439-95-4	
Manganese, Dissolved	620	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 13:03	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 13:03	7440-02-0	
Potassium, Dissolved	902J	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 13:03	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 13:03	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 13:03	7440-22-4	
Sodium, Dissolved	19800	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 13:03	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 13:03	7440-28-0	
Vanadium, Dissolved	5.2J	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 13:03	7440-62-2	
Zinc, Dissolved	17.0J	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 13:03	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:57	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 08:56	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/10/16 08:56	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 08:56	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 08:56	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/10/16 08:56	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 08:56	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/10/16 08:56	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/10/16 08:56	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/16 08:56	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/10/16 08:56	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/16 08:56	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/10/16 08:56	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/10/16 08:56	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/10/16 08:56	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW11S-GW-120716 Lab ID: 10372484003 Collected: 12/07/16 13:50 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/10/16 08:56	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/10/16 08:56	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/10/16 08:56	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/10/16 08:56	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/10/16 08:56	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/10/16 08:56	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/10/16 08:56	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/10/16 08:56	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/10/16 08:56	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/10/16 08:56	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/10/16 08:56	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/10/16 08:56	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/10/16 08:56	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/10/16 08:56	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/10/16 08:56	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/10/16 08:56	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/10/16 08:56	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/10/16 08:56	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/10/16 08:56	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/10/16 08:56	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/10/16 08:56	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/10/16 08:56	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/10/16 08:56	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/10/16 08:56	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/10/16 08:56	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/10/16 08:56	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/10/16 08:56	56-23-5	L3
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/10/16 08:56	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/10/16 08:56	75-00-3	
Chloroform	0.33J	ug/L	1.0	0.21	1		12/10/16 08:56	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/10/16 08:56	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/10/16 08:56	124-48-1	L3
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/10/16 08:56	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/10/16 08:56	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/10/16 08:56	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/10/16 08:56	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/10/16 08:56	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/10/16 08:56	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/10/16 08:56	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/10/16 08:56	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/10/16 08:56	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/10/16 08:56	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/10/16 08:56	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/10/16 08:56	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/10/16 08:56	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/10/16 08:56	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: MW11S-GW-120716 **Lab ID: 10372484003** Collected: 12/07/16 13:50 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/10/16 08:56	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/10/16 08:56	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/10/16 08:56	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/10/16 08:56	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/10/16 08:56	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/10/16 08:56	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/16 08:56	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/10/16 08:56	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/10/16 08:56	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/10/16 08:56	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/10/16 08:56	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/10/16 08:56	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/10/16 08:56	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/10/16 08:56	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/10/16 08:56	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/10/16 08:56	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/10/16 08:56	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/10/16 08:56	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/10/16 08:56	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/10/16 08:56	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		12/10/16 08:56	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/10/16 08:56	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		12/10/16 08:56	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	213	mg/L	5.0	1.4	1		12/17/16 15:48		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:45	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.1J	mg/L	1.2	0.10	1		12/08/16 18:26	16887-00-6	
Nitrate as N	0.048J	mg/L	0.10	0.013	1		12/08/16 18:26	14797-55-8	
Sulfate	2.8	mg/L	1.2	0.16	1		12/08/16 18:26	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	1.5	mg/L	1.0	0.20	1		12/16/16 17:01	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: WS5-GW-IN-120716 **Lab ID: 10372484004** Collected: 12/07/16 12:55 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/12/16 12:57	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/12/16 12:57	74-85-1	
Methane	1.8J	ug/L	10.0	0.49	1		12/12/16 12:57	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 07:08	12/12/16 13:06	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 13:06	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 07:08	12/12/16 13:06	7440-38-2	
Barium, Dissolved	52.1	ug/L	10.0	0.20	1	12/12/16 07:08	12/12/16 13:06	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 07:08	12/12/16 13:06	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 07:08	12/12/16 13:06	7440-43-9	
Calcium, Dissolved	35300	ug/L	500	15.8	1	12/12/16 07:08	12/12/16 13:06	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 07:08	12/12/16 13:06	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/12/16 07:08	12/12/16 13:06	7440-48-4	
Copper, Dissolved	7.1J	ug/L	10.0	0.89	1	12/12/16 07:08	12/12/16 13:06	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 07:08	12/12/16 13:06	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 07:08	12/12/16 13:06	7439-92-1	
Magnesium, Dissolved	14500	ug/L	500	7.4	1	12/12/16 07:08	12/12/16 13:06	7439-95-4	
Manganese, Dissolved	<0.33	ug/L	5.0	0.33	1	12/12/16 07:08	12/12/16 13:06	7439-96-5	
Nickel, Dissolved	2.9J	ug/L	20.0	1.6	1	12/12/16 07:08	12/12/16 13:06	7440-02-0	
Potassium, Dissolved	4390	ug/L	2500	26.1	1	12/12/16 07:08	12/12/16 13:06	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 07:08	12/12/16 13:06	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 07:08	12/12/16 13:06	7440-22-4	
Sodium, Dissolved	14100	ug/L	1000	12.0	1	12/12/16 07:08	12/12/16 13:06	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 07:08	12/12/16 13:06	7440-28-0	
Vanadium, Dissolved	18.4	ug/L	15.0	0.39	1	12/12/16 07:08	12/12/16 13:06	7440-62-2	
Zinc, Dissolved	32.5	ug/L	20.0	1.4	1	12/12/16 07:08	12/12/16 13:06	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/09/16 09:46	12/12/16 15:59	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 09:18	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/10/16 09:18	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 09:18	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 09:18	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/10/16 09:18	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 09:18	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/10/16 09:18	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/10/16 09:18	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/16 09:18	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/10/16 09:18	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/16 09:18	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/10/16 09:18	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/10/16 09:18	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/10/16 09:18	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: **WS5-GW-IN-120716** Lab ID: **10372484004** Collected: 12/07/16 12:55 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/10/16 09:18	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/10/16 09:18	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/10/16 09:18	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/10/16 09:18	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/10/16 09:18	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/10/16 09:18	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/10/16 09:18	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/10/16 09:18	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/10/16 09:18	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/10/16 09:18	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/10/16 09:18	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/10/16 09:18	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/10/16 09:18	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/10/16 09:18	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/10/16 09:18	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/10/16 09:18	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/10/16 09:18	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/10/16 09:18	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/10/16 09:18	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/10/16 09:18	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/10/16 09:18	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/10/16 09:18	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/10/16 09:18	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/10/16 09:18	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/10/16 09:18	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/10/16 09:18	75-15-0	
Carbon tetrachloride	11.6	ug/L	1.0	0.079	1		12/10/16 09:18	56-23-5	L1
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/10/16 09:18	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/10/16 09:18	75-00-3	
Chloroform	0.55J	ug/L	1.0	0.21	1		12/10/16 09:18	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/10/16 09:18	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/10/16 09:18	124-48-1	L3
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/10/16 09:18	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/10/16 09:18	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/10/16 09:18	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/10/16 09:18	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/10/16 09:18	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/10/16 09:18	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/10/16 09:18	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/10/16 09:18	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/10/16 09:18	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/10/16 09:18	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/10/16 09:18	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/10/16 09:18	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/10/16 09:18	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/10/16 09:18	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: WS5-GW-IN-120716 **Lab ID: 10372484004** Collected: 12/07/16 12:55 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/10/16 09:18	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/10/16 09:18	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/10/16 09:18	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/10/16 09:18	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/10/16 09:18	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/10/16 09:18	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/16 09:18	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/10/16 09:18	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/10/16 09:18	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/10/16 09:18	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/10/16 09:18	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/10/16 09:18	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/10/16 09:18	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/10/16 09:18	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/10/16 09:18	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/10/16 09:18	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/10/16 09:18	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/10/16 09:18	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/10/16 09:18	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/10/16 09:18	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	116	%	75-125		1		12/10/16 09:18	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/10/16 09:18	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/10/16 09:18	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	179	mg/L	5.0	1.4	1		12/17/16 15:52		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:45	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	2.9	mg/L	1.2	0.10	1		12/08/16 18:42	16887-00-6	
Nitrate as N	1.0	mg/L	0.10	0.013	1		12/08/16 18:42	14797-55-8	
Sulfate	5.7	mg/L	1.2	0.16	1		12/08/16 18:42	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	0.45J	mg/L	1.0	0.20	1		12/16/16 17:15	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: **WS5-GW-EF-120716** Lab ID: **10372484005** Collected: 12/07/16 13:00 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 09:40	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/10/16 09:40	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 09:40	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 09:40	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/10/16 09:40	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 09:40	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/10/16 09:40	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/10/16 09:40	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/16 09:40	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/10/16 09:40	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/16 09:40	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/10/16 09:40	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/10/16 09:40	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/10/16 09:40	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/10/16 09:40	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/10/16 09:40	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/10/16 09:40	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/10/16 09:40	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/10/16 09:40	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/10/16 09:40	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/10/16 09:40	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/10/16 09:40	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/10/16 09:40	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/10/16 09:40	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/10/16 09:40	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/10/16 09:40	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/10/16 09:40	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/10/16 09:40	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/10/16 09:40	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/10/16 09:40	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/10/16 09:40	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/10/16 09:40	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/10/16 09:40	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/10/16 09:40	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/10/16 09:40	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/10/16 09:40	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/10/16 09:40	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/10/16 09:40	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/10/16 09:40	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/10/16 09:40	75-15-0	
Carbon tetrachloride	0.46J	ug/L	1.0	0.079	1		12/10/16 09:40	56-23-5	L1
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/10/16 09:40	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/10/16 09:40	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/10/16 09:40	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/10/16 09:40	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/10/16 09:40	124-48-1	L3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: WS5-GW-EF-120716 **Lab ID: 10372484005** Collected: 12/07/16 13:00 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/10/16 09:40	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/10/16 09:40	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/10/16 09:40	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/10/16 09:40	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/10/16 09:40	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/10/16 09:40	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/10/16 09:40	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/10/16 09:40	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/10/16 09:40	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/10/16 09:40	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/10/16 09:40	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/10/16 09:40	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/10/16 09:40	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/10/16 09:40	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/10/16 09:40	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/10/16 09:40	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/10/16 09:40	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/10/16 09:40	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/10/16 09:40	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/10/16 09:40	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/16 09:40	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/10/16 09:40	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/10/16 09:40	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/10/16 09:40	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/10/16 09:40	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/10/16 09:40	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/10/16 09:40	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/10/16 09:40	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/10/16 09:40	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/10/16 09:40	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/10/16 09:40	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/10/16 09:40	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/10/16 09:40	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/10/16 09:40	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		12/10/16 09:40	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/10/16 09:40	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		12/10/16 09:40	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: Trip Blank Lab ID: 10372484006 Collected: 12/07/16 00:00 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 02:19	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/10/16 02:19	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 02:19	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/10/16 02:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/10/16 02:19	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/10/16 02:19	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/10/16 02:19	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/10/16 02:19	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/10/16 02:19	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/10/16 02:19	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/10/16 02:19	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/10/16 02:19	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/10/16 02:19	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/10/16 02:19	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/10/16 02:19	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/10/16 02:19	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/10/16 02:19	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/10/16 02:19	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/10/16 02:19	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/10/16 02:19	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/10/16 02:19	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/10/16 02:19	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/10/16 02:19	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/10/16 02:19	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/10/16 02:19	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/10/16 02:19	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/10/16 02:19	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/10/16 02:19	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/10/16 02:19	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/10/16 02:19	108-10-1	
Acetone	0.68J	ug/L	20.0	0.64	1		12/10/16 02:19	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/10/16 02:19	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/10/16 02:19	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/10/16 02:19	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/10/16 02:19	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/10/16 02:19	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/10/16 02:19	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/10/16 02:19	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/10/16 02:19	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/10/16 02:19	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/10/16 02:19	56-23-5	L3
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/10/16 02:19	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/10/16 02:19	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/10/16 02:19	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/10/16 02:19	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/10/16 02:19	124-48-1	L3

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Sample: Trip Blank **Lab ID: 10372484006** Collected: 12/07/16 00:00 Received: 12/08/16 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/10/16 02:19	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/10/16 02:19	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/10/16 02:19	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/10/16 02:19	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/10/16 02:19	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/10/16 02:19	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/10/16 02:19	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/10/16 02:19	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/10/16 02:19	1634-04-4	
Methylene Chloride	0.31J	ug/L	4.0	0.097	1		12/10/16 02:19	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/10/16 02:19	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/10/16 02:19	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/10/16 02:19	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/10/16 02:19	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/10/16 02:19	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/10/16 02:19	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/10/16 02:19	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/10/16 02:19	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/10/16 02:19	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/10/16 02:19	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/10/16 02:19	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/10/16 02:19	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/10/16 02:19	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/10/16 02:19	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/10/16 02:19	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/10/16 02:19	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/10/16 02:19	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/10/16 02:19	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/10/16 02:19	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/10/16 02:19	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/10/16 02:19	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/10/16 02:19	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/10/16 02:19	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/10/16 02:19	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		12/10/16 02:19	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/10/16 02:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		12/10/16 02:19	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 451285 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

METHOD BLANK: 2471351 Matrix: Water
Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/12/16 10:50	
Ethene	ug/L	<0.77	10.0	0.77	12/12/16 10:50	
Methane	ug/L	1.8J	10.0	0.49	12/12/16 10:50	

LABORATORY CONTROL SAMPLE & LCSD: 2471352

2471353

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	110	120	97	106	85-115	9	20	
Ethene	ug/L	106	102	113	97	107	85-115	10	20	
Methane	ug/L	60.7	57.9	63.7	95	105	85-115	10	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472437

2472438

Parameter	Units	60233737004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	ND	114	114	241	191	212	168	35-150	23	20	M1, R1
Ethene	ug/L	ND	106	106	214	174	202	164	36-150	20	20	M1
Methane	ug/L	ND	60.7	60.7	130	101	213	165	30-150	25	20	M1, R1

SAMPLE DUPLICATE: 2472439

Parameter	Units	10372484004 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	1.8J	1.9J		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

QC Batch: 451693 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470A Mercury Water Dissolved
 Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

METHOD BLANK: 2473285 Matrix: Water
 Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/12/16 15:18	

LABORATORY CONTROL SAMPLE: 2473286

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2473287 2473288

Parameter	Units	10372168002		2473287		2473288		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Mercury, Dissolved	ug/L	<0.031	5	5	5	4.9	5.2	97	104	80-120	7	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 451494 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

METHOD BLANK: 2472094 Matrix: Water
Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/12/16 11:51	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/12/16 11:51	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/12/16 11:51	
Barium, Dissolved	ug/L	0.34J	10.0	0.20	12/12/16 11:51	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/12/16 11:51	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/12/16 11:51	
Calcium, Dissolved	ug/L	47.6J	500	15.8	12/12/16 11:51	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/12/16 11:51	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/12/16 11:51	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/12/16 11:51	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/12/16 11:51	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/12/16 11:51	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/12/16 11:51	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/12/16 11:51	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/12/16 11:51	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/12/16 11:51	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/12/16 11:51	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/12/16 11:51	
Sodium, Dissolved	ug/L	323J	1000	12.0	12/12/16 11:51	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/12/16 11:51	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/12/16 11:51	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/12/16 11:51	

LABORATORY CONTROL SAMPLE: 2472095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20400	102	80-120	
Antimony, Dissolved	ug/L	1000	973	97	80-120	
Arsenic, Dissolved	ug/L	1000	1020	102	80-120	
Barium, Dissolved	ug/L	1000	1030	103	80-120	
Beryllium, Dissolved	ug/L	1000	1010	101	80-120	
Cadmium, Dissolved	ug/L	1000	1020	102	80-120	
Calcium, Dissolved	ug/L	20000	20700	103	80-120	
Chromium, Dissolved	ug/L	1000	997	100	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	998	100	80-120	
Iron, Dissolved	ug/L	20000	19900	99	80-120	
Lead, Dissolved	ug/L	1000	1030	103	80-120	
Magnesium, Dissolved	ug/L	20000	20400	102	80-120	
Manganese, Dissolved	ug/L	1000	1010	101	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

LABORATORY CONTROL SAMPLE: 2472095

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1020	102	80-120	
Potassium, Dissolved	ug/L	20000	19700	98	80-120	
Selenium, Dissolved	ug/L	1000	1060	106	80-120	
Silver, Dissolved	ug/L	500	505	101	80-120	
Sodium, Dissolved	ug/L	20000	19400	97	80-120	
Thallium, Dissolved	ug/L	1000	968	97	80-120	
Vanadium, Dissolved	ug/L	1000	1020	102	80-120	
Zinc, Dissolved	ug/L	1000	1060	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472096 2472097

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		10372168001 Result	Spike Conc.	Spike Conc.	MS Result						MSD Result
Aluminum, Dissolved	ug/L	21.4J	20000	20000	20000	20100	100	101	75-125	0	20
Antimony, Dissolved	ug/L	<2.5	1000	1000	971	975	97	97	75-125	0	20
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1000	1000	100	100	75-125	0	20
Barium, Dissolved	ug/L	60.2	1000	1000	1050	1060	99	100	75-125	0	20
Beryllium, Dissolved	ug/L	0.13J	1000	1000	994	998	99	100	75-125	0	20
Cadmium, Dissolved	ug/L	<0.30	1000	1000	993	994	99	99	75-125	0	20
Calcium, Dissolved	ug/L	63400	20000	20000	82600	83600	96	101	75-125	1	20
Chromium, Dissolved	ug/L	<2.0	1000	1000	967	971	97	97	75-125	0	20
Cobalt, Dissolved	ug/L	1.5J	1000	1000	967	972	97	97	75-125	0	20
Copper, Dissolved	ug/L	<0.89	1000	1000	974	977	97	98	75-125	0	20
Iron, Dissolved	ug/L	31.4J	20000	20000	19300	19300	96	97	75-125	0	20
Lead, Dissolved	ug/L	<1.9	1000	1000	987	995	99	99	75-125	1	20
Magnesium, Dissolved	ug/L	14200	20000	20000	33900	34200	99	100	75-125	1	20
Manganese, Dissolved	ug/L	220	1000	1000	1190	1200	97	98	75-125	1	20
Nickel, Dissolved	ug/L	<1.6	1000	1000	964	967	96	97	75-125	0	20
Potassium, Dissolved	ug/L	1140J	20000	20000	21000	21100	99	100	75-125	0	20
Selenium, Dissolved	ug/L	<4.5	1000	1000	1020	1020	102	102	75-125	0	20
Silver, Dissolved	ug/L	<0.28	500	500	492	494	98	99	75-125	0	20
Sodium, Dissolved	ug/L	12400	20000	20000	31300	31600	94	96	75-125	1	20
Thallium, Dissolved	ug/L	<3.8	1000	1000	931	940	93	94	75-125	1	20
Vanadium, Dissolved	ug/L	1.5J	1000	1000	1000	1000	100	100	75-125	0	20
Zinc, Dissolved	ug/L	26.1	1000	1000	1020	1030	100	100	75-125	0	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 451041 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372484002, 10372484003, 10372484004, 10372484005, 10372484006

METHOD BLANK: 2469710 Matrix: Water
Associated Lab Samples: 10372484002, 10372484003, 10372484004, 10372484005, 10372484006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/10/16 01:57	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/10/16 01:57	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/10/16 01:57	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/10/16 01:57	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/10/16 01:57	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/10/16 01:57	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/10/16 01:57	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/10/16 01:57	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/10/16 01:57	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/10/16 01:57	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/10/16 01:57	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/10/16 01:57	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/10/16 01:57	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/10/16 01:57	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/10/16 01:57	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/10/16 01:57	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/10/16 01:57	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/10/16 01:57	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/10/16 01:57	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/10/16 01:57	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/10/16 01:57	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/10/16 01:57	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/10/16 01:57	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/10/16 01:57	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/10/16 01:57	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/10/16 01:57	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/10/16 01:57	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/10/16 01:57	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/10/16 01:57	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/10/16 01:57	
Acetone	ug/L	<0.64	20.0	0.64	12/10/16 01:57	
Acrolein	ug/L	<2.1	10.0	2.1	12/10/16 01:57	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/10/16 01:57	
Benzene	ug/L	<0.042	0.50	0.042	12/10/16 01:57	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/10/16 01:57	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/10/16 01:57	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/10/16 01:57	
Bromoform	ug/L	<0.11	4.0	0.11	12/10/16 01:57	
Bromomethane	ug/L	<0.20	4.0	0.20	12/10/16 01:57	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/10/16 01:57	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/10/16 01:57	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

METHOD BLANK: 2469710

Matrix: Water

Associated Lab Samples: 10372484002, 10372484003, 10372484004, 10372484005, 10372484006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/10/16 01:57	
Chloroethane	ug/L	<0.12	1.0	0.12	12/10/16 01:57	
Chloroform	ug/L	<0.21	1.0	0.21	12/10/16 01:57	
Chloromethane	ug/L	<0.080	4.0	0.080	12/10/16 01:57	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/10/16 01:57	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/10/16 01:57	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/10/16 01:57	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/10/16 01:57	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/10/16 01:57	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/10/16 01:57	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/10/16 01:57	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/10/16 01:57	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/10/16 01:57	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/10/16 01:57	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/10/16 01:57	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/10/16 01:57	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/10/16 01:57	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/10/16 01:57	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/10/16 01:57	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/10/16 01:57	
Naphthalene	ug/L	<0.064	1.0	0.064	12/10/16 01:57	
o-Xylene	ug/L	<0.044	0.50	0.044	12/10/16 01:57	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/10/16 01:57	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/10/16 01:57	
Styrene	ug/L	<0.056	0.50	0.056	12/10/16 01:57	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/10/16 01:57	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/10/16 01:57	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/10/16 01:57	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/10/16 01:57	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/10/16 01:57	
Toluene	ug/L	<0.059	0.50	0.059	12/10/16 01:57	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/10/16 01:57	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/10/16 01:57	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/10/16 01:57	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/10/16 01:57	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/10/16 01:57	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/10/16 01:57	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/10/16 01:57	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/10/16 01:57	
1,2-Dichloroethane-d4 (S)	%	117	75-125		12/10/16 01:57	
4-Bromofluorobenzene (S)	%	103	75-125		12/10/16 01:57	
Toluene-d8 (S)	%	101	75-125		12/10/16 01:57	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

LABORATORY CONTROL SAMPLE & LCSD: 2469711

2470111

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	25.7	25.2	128	126	75-125	2	30	L0
1,1,1-Trichloroethane	ug/L	20	21.9	21.8	110	109	74-125	1	30	
1,1,2,2-Tetrachloroethane	ug/L	20	24.1	22.8	120	114	67-131	5	30	
1,1,2-Trichloroethane	ug/L	20	23.1	22.4	116	112	75-125	3	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.9	21.6	110	108	75-125	1	30	
1,1-Dichloroethane	ug/L	20	20.4	20.1	102	100	74-125	2	30	
1,1-Dichloroethene	ug/L	20	20.9	20.4	104	102	74-125	2	30	
1,1-Dichloropropene	ug/L	20	19.6	19.1	98	95	74-125	3	30	
1,2,3-Trichlorobenzene	ug/L	20	20.8	20.8	104	104	63-131	0	30	
1,2,3-Trichloropropane	ug/L	20	22.4	21.6	112	108	73-125	4	30	
1,2,4-Trichlorobenzene	ug/L	20	19.9	20.0	100	100	66-126	0	30	
1,2,4-Trimethylbenzene	ug/L	20	21.5	20.5	108	103	74-129	5	30	
1,2-Dibromo-3-chloropropane	ug/L	50	59.1	56.2	118	112	54-129	5	30	
1,2-Dibromoethane (EDB)	ug/L	20	22.5	21.8	113	109	75-125	3	30	
1,2-Dichlorobenzene	ug/L	20	21.4	20.2	107	101	75-125	6	30	
1,2-Dichloroethane	ug/L	20	21.2	21.0	106	105	75-125	1	30	
1,2-Dichloroethene (Total)	ug/L	40	40.3	39.1	101	98	75-125	3	30	
1,2-Dichloropropane	ug/L	20	20.7	19.7	104	99	75-125	5	30	
1,3,5-Trimethylbenzene	ug/L	20	21.7	20.9	109	104	73-127	4	30	
1,3-Dichlorobenzene	ug/L	20	21.9	20.8	110	104	75-125	5	30	
1,3-Dichloropropane	ug/L	20	20.7	20.1	104	101	69-125	3	30	
1,4-Dichlorobenzene	ug/L	20	21.0	19.8	105	99	75-125	6	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	445	454	111	113	70-130	2	30	
2,2,4-Trimethylpentane	ug/L	20	18.7	18.4	94	92	67-138	2	30	
2,2-Dichloropropane	ug/L	20	20.7	19.6	103	98	69-125	5	30	
2-Butanone (MEK)	ug/L	100	92.1	88.1	92	88	48-145	5	30	
2-Chlorotoluene	ug/L	20	21.4	19.2	107	96	74-125	11	30	
2-Hexanone	ug/L	100	101	94.8	101	95	63-135	7	30	
4-Chlorotoluene	ug/L	20	22.0	21.1	110	106	73-125	4	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.8	95.4	99	95	53-138	3	30	
Acetone	ug/L	100	90.0	95.2	90	95	70-142	6	30	
Acrolein	ug/L	200	227	223	114	111	44-150	2	30	
Acrylonitrile	ug/L	200	195	191	97	95	68-125	2	30	
Benzene	ug/L	20	19.1	18.4	96	92	65-125	4	30	
Bromobenzene	ug/L	20	21.4	21.2	107	106	75-125	1	30	
Bromochloromethane	ug/L	20	23.3	23.5	117	117	75-125	1	30	
Bromodichloromethane	ug/L	20	23.6	22.5	118	113	73-125	5	30	
Bromoform	ug/L	20	24.4	24.3	122	122	69-125	0	30	
Bromomethane	ug/L	20	19.3	21.3	96	106	40-136	10	30	
Carbon disulfide	ug/L	20	18.6	18.9	93	94	36-150	1	30	
Carbon tetrachloride	ug/L	20	25.2	25.2	126	126	70-125	0	30	L0
Chlorobenzene	ug/L	20	21.0	20.0	105	100	75-125	5	30	
Chloroethane	ug/L	20	22.4	22.4	112	112	67-141	0	30	
Chloroform	ug/L	20	20.9	20.4	105	102	75-125	3	30	
Chloromethane	ug/L	20	18.3	18.4	91	92	50-150	1	30	
cis-1,2-Dichloroethene	ug/L	20	20.0	19.7	100	98	75-125	2	30	
cis-1,3-Dichloropropene	ug/L	20	20.2	19.8	101	99	75-125	2	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

LABORATORY CONTROL SAMPLE & LCSD: 2469711		2470111								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	25.7	25.2	129	126	75-125	2	30	L0
Dibromomethane	ug/L	20	21.4	20.6	107	103	75-129	4	30	
Dichlorodifluoromethane	ug/L	20	22.7	22.0	114	110	59-135	3	30	
Dichlorofluoromethane	ug/L	20	22.3	22.3	111	112	74-130	0	30	
Diisopropyl ether	ug/L	20	18.3	18.4	92	92	71-125	0	30	
Ethyl-tert-butyl ether	ug/L	20	18.8	19.2	94	96	70-130	2	30	
Ethylbenzene	ug/L	20	21.4	20.4	107	102	75-125	5	30	
Hexachloro-1,3-butadiene	ug/L	20	21.3	23.6	106	118	72-126	10	30	
Isopropylbenzene (Cumene)	ug/L	20	21.4	20.7	107	103	71-136	3	30	
m&p-Xylene	ug/L	40	42.9	40.8	107	102	75-125	5	30	
Methyl-tert-butyl ether	ug/L	20	20.1	20.1	101	100	73-127	0	30	
Methylene Chloride	ug/L	20	20.6	20.6	103	103	68-128	0	30	
n-Butylbenzene	ug/L	20	21.0	20.4	105	102	70-126	3	30	
n-Propylbenzene	ug/L	20	21.0	20.1	105	100	67-131	4	30	
Naphthalene	ug/L	20	19.8	19.3	99	97	52-134	2	30	
o-Xylene	ug/L	20	21.0	20.0	105	100	75-125	5	30	
p-Isopropyltoluene	ug/L	20	21.3	20.7	106	104	74-125	3	30	
sec-Butylbenzene	ug/L	20	21.0	20.7	105	103	69-134	2	30	
Styrene	ug/L	20	21.4	20.9	107	105	75-125	2	30	
tert-Amylmethyl ether	ug/L	20	18.9	18.7	95	94	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	237	245	118	122	66-128	3	30	
tert-Butylbenzene	ug/L	20	20.9	20.4	104	102	71-128	2	30	
Tetrachloroethene	ug/L	20	21.0	20.1	105	100	74-125	4	30	
Tetrahydrofuran	ug/L	200	174	173	87	87	64-142	0	30	
Toluene	ug/L	20	19.0	18.7	95	93	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	20.3	19.4	102	97	73-125	4	30	
trans-1,3-Dichloropropene	ug/L	20	22.1	21.9	111	110	75-125	1	30	
trans-1,4-Dichloro-2-butene	ug/L	50	39.3	37.4	79	75	54-133	5	30	
Trichloroethene	ug/L	20	21.1	19.8	105	99	75-125	6	30	
Trichlorofluoromethane	ug/L	20	23.9	23.5	120	117	75-126	2	30	
Vinyl acetate	ug/L	20	23.4	23.4	117	117	67-126	0	30	
Vinyl chloride	ug/L	20	20.4	20.4	102	102	72-125	0	30	
Xylene (Total)	ug/L	60	63.9	60.9	106	101	75-125	5	30	
1,2-Dichloroethane-d4 (S)	%				107	106	75-125			
4-Bromofluorobenzene (S)	%				99	99	75-125			
Toluene-d8 (S)	%				101	100	75-125			

MATRIX SPIKE SAMPLE: 2470112		1280157013	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	ND	20	22.6	113	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	21.5	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.6	103	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	20.3	101	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	24.0	120	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

MATRIX SPIKE SAMPLE: 2470112		1280157013	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	20.1	100	58-147	
1,1-Dichloroethene	ug/L	ND	20	21.7	108	49-150	
1,1-Dichloropropene	ug/L	ND	20	19.4	97	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	20.1	101	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	18.8	94	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	18.9	95	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	20.1	100	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50.7	101	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20.1	100	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	19.2	96	75-125	
1,2-Dichloroethane	ug/L	ND	20	19.3	96	63-133	
1,2-Dichloroethene (Total)	ug/L	5.6	40	44.4	97	55-146	
1,2-Dichloropropane	ug/L	ND	20	18.2	91	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	20.2	101	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	19.8	99	75-125	
1,3-Dichloropropane	ug/L	ND	20	18.5	92	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	19.2	96	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	387	97	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	20.4	102	30-150	
2,2-Dichloropropane	ug/L	ND	20	19.2	96	39-148	
2-Butanone (MEK)	ug/L	ND	100	75.6	76	50-144	
2-Chlorotoluene	ug/L	ND	20	18.4	92	71-135	
2-Hexanone	ug/L	ND	100	84.4	84	43-150	
4-Chlorotoluene	ug/L	ND	20	20.3	101	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	81.7	82	60-147	
Acetone	ug/L	ND	100	76.4	76	59-150	
Acrolein	ug/L	ND	200	170	85	30-150	
Acrylonitrile	ug/L	ND	200	169	84	41-148	
Benzene	ug/L	ND	20	17.9	89	61-138	
Bromobenzene	ug/L	ND	20	19.4	97	74-130	
Bromochloromethane	ug/L	ND	20	21.4	107	65-137	
Bromodichloromethane	ug/L	ND	20	21.0	105	66-136	
Bromoform	ug/L	ND	20	20.7	104	71-125	
Bromomethane	ug/L	ND	20	22.8	114	30-150	
Carbon disulfide	ug/L	ND	20	19.0	95	30-150	
Carbon tetrachloride	ug/L	ND	20	25.3	127	68-140	
Chlorobenzene	ug/L	ND	20	19.0	95	75-132	
Chloroethane	ug/L	ND	20	23.2	116	55-150	
Chloroform	ug/L	ND	20	19.5	97	64-139	
Chloromethane	ug/L	ND	20	19.6	98	73-150	
cis-1,2-Dichloroethene	ug/L	5.6	20	24.3	93	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	18.4	92	70-125	
Dibromochloromethane	ug/L	ND	20	22.8	114	74-125	
Dibromomethane	ug/L	ND	20	19.1	96	66-138	
Dichlorodifluoromethane	ug/L	ND	20	27.1	136	53-150	
Dichlorofluoromethane	ug/L	ND	20	23.2	116	58-150	
Diisopropyl ether	ug/L	ND	20	17.0	85	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

MATRIX SPIKE SAMPLE: 2470112

Parameter	Units	1280157013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	17.1	86	30-140	
Ethylbenzene	ug/L	ND	20	19.5	98	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	23.7	119	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	19.9	100	65-146	
m&p-Xylene	ug/L	ND	40	39.4	98	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	18.4	92	63-134	
Methylene Chloride	ug/L	ND	20	20.0	98	49-143	
n-Butylbenzene	ug/L	ND	20	20.3	102	67-134	
n-Propylbenzene	ug/L	ND	20	19.5	97	62-142	
Naphthalene	ug/L	ND	20	17.4	87	41-150	
o-Xylene	ug/L	ND	20	19.2	96	66-138	
p-Isopropyltoluene	ug/L	ND	20	20.2	101	64-137	
sec-Butylbenzene	ug/L	ND	20	20.4	102	65-142	
Styrene	ug/L	ND	20	19.4	97	61-142	
tert-Amylmethyl ether	ug/L	ND	20	16.8	84	65-125	
tert-Butyl Alcohol	ug/L	ND	200	204	102	59-138	
tert-Butylbenzene	ug/L	ND	20	19.8	99	69-135	
Tetrachloroethene	ug/L	ND	20	19.9	99	62-142	
Tetrahydrofuran	ug/L	ND	200	150	75	55-150	
Toluene	ug/L	ND	20	17.9	90	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	20.1	101	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	19.8	99	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	33.0	66	31-150	
Trichloroethene	ug/L	ND	20	20.0	98	64-142	
Trichlorofluoromethane	ug/L	ND	20	27.6	138	63-150	
Vinyl acetate	ug/L	ND	20	21.5	108	30-150	
Vinyl chloride	ug/L	ND	20	22.6	113	58-150	
Xylene (Total)	ug/L	ND	60	58.5	98	70-140	
1,2-Dichloroethane-d4 (S)	%				109	75-125	
4-Bromofluorobenzene (S)	%				100	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2470113

Parameter	Units	1280157014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

SAMPLE DUPLICATE: 2470113

Parameter	Units	1280157014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	4.5	5.0	11	30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	<0.64		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	ND	<0.079		30	
Chlorobenzene	ug/L	ND	<0.066		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	ND	<0.21		30	
Chloromethane	ug/L	ND	<0.080		30	
cis-1,2-Dichloroethene	ug/L	4.5	5.0	11	30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

SAMPLE DUPLICATE: 2470113

Parameter	Units	1280157014 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	0.31J		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	ND	<0.13		30	
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	
Trichloroethene	ug/L	ND	0.12J		30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	116	115	1		
4-Bromofluorobenzene (S)	%	103	102	1		
Toluene-d8 (S)	%	103	101	2		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 452383 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372484001

METHOD BLANK: 2476549 Matrix: Water
Associated Lab Samples: 10372484001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/19/16 13:31	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/19/16 13:31	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/19/16 13:31	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/19/16 13:31	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/19/16 13:31	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/19/16 13:31	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/19/16 13:31	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/19/16 13:31	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/19/16 13:31	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/19/16 13:31	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/19/16 13:31	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/19/16 13:31	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/19/16 13:31	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/19/16 13:31	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/19/16 13:31	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/19/16 13:31	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/19/16 13:31	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/19/16 13:31	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/19/16 13:31	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/19/16 13:31	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/19/16 13:31	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/19/16 13:31	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/19/16 13:31	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/19/16 13:31	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/19/16 13:31	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/19/16 13:31	
Acetone	ug/L	<0.64	20.0	0.64	12/19/16 13:31	
Acrolein	ug/L	<2.1	10.0	2.1	12/19/16 13:31	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/19/16 13:31	
Benzene	ug/L	<0.042	0.50	0.042	12/19/16 13:31	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/19/16 13:31	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/19/16 13:31	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/19/16 13:31	
Bromoform	ug/L	<0.11	4.0	0.11	12/19/16 13:31	
Bromomethane	ug/L	<0.20	4.0	0.20	12/19/16 13:31	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/19/16 13:31	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/19/16 13:31	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

METHOD BLANK: 2476549 Matrix: Water
Associated Lab Samples: 10372484001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/19/16 13:31	
Chloroethane	ug/L	<0.12	1.0	0.12	12/19/16 13:31	
Chloroform	ug/L	<0.21	1.0	0.21	12/19/16 13:31	
Chloromethane	ug/L	<0.080	4.0	0.080	12/19/16 13:31	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/19/16 13:31	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/19/16 13:31	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	12/19/16 13:31	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/19/16 13:31	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/19/16 13:31	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/19/16 13:31	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/19/16 13:31	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/19/16 13:31	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/19/16 13:31	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/19/16 13:31	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/19/16 13:31	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/19/16 13:31	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/19/16 13:31	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/19/16 13:31	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/19/16 13:31	
Naphthalene	ug/L	<0.064	4.0	0.064	12/19/16 13:31	
o-Xylene	ug/L	<0.044	0.50	0.044	12/19/16 13:31	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/19/16 13:31	
Styrene	ug/L	<0.056	0.50	0.056	12/19/16 13:31	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/19/16 13:31	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/19/16 13:31	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/19/16 13:31	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/19/16 13:31	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/19/16 13:31	
Toluene	ug/L	<0.059	0.50	0.059	12/19/16 13:31	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/19/16 13:31	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/19/16 13:31	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/19/16 13:31	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/19/16 13:31	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/19/16 13:31	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/19/16 13:31	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/19/16 13:31	
1,2-Dichloroethane-d4 (S)	%	103	75-125		12/19/16 13:31	
4-Bromofluorobenzene (S)	%	101	75-125		12/19/16 13:31	
Toluene-d8 (S)	%	99	75-125		12/19/16 13:31	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

LABORATORY CONTROL SAMPLE & LCSD: 2476550		2476551								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	19.8	98	99	75-125	1	30	
1,1,1-Trichloroethane	ug/L	20	18.7	18.5	93	93	74-125	1	30	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	19.7	95	98	67-131	4	30	
1,1,2-Trichloroethane	ug/L	20	18.9	19.3	95	97	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.9	17.4	90	87	75-125	3	30	
1,1-Dichloroethane	ug/L	20	19.0	18.5	95	93	74-125	3	30	
1,1-Dichloroethene	ug/L	20	18.1	17.9	91	90	74-125	1	30	
1,1-Dichloropropene	ug/L	20	18.4	18.4	92	92	74-125	0	30	
1,2,3-Trichlorobenzene	ug/L	20	19.9	20.3	100	101	63-131	2	30	
1,2,3-Trichloropropane	ug/L	20	19.1	19.6	96	98	73-125	2	30	
1,2,4-Trichlorobenzene	ug/L	20	20.2	20.4	101	102	66-126	1	30	
1,2,4-Trimethylbenzene	ug/L	20	20.3	20.3	102	101	74-129	0	30	
1,2-Dibromo-3-chloropropane	ug/L	50	46.5	48.2	93	96	54-129	4	30	
1,2-Dibromoethane (EDB)	ug/L	20	19.5	20.0	98	100	75-125	2	30	
1,2-Dichlorobenzene	ug/L	20	19.8	19.5	99	97	75-125	2	30	
1,2-Dichloroethane	ug/L	20	18.7	18.1	94	90	75-125	4	30	
1,2-Dichloroethene (Total)	ug/L	40	35.3	35.2	88	88	75-125	0	30	
1,2-Dichloropropane	ug/L	20	19.0	18.8	95	94	75-125	1	30	
1,3,5-Trimethylbenzene	ug/L	20	19.7	19.4	98	97	73-127	1	30	
1,3-Dichlorobenzene	ug/L	20	19.4	19.5	97	97	75-125	0	30	
1,3-Dichloropropane	ug/L	20	18.8	19.1	94	96	69-125	1	30	
1,4-Dichlorobenzene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	346	439	86	110	70-130	24	30	
2,2,4-Trimethylpentane	ug/L	20	17.4	16.6	87	83	67-138	5	30	
2,2-Dichloropropane	ug/L	20	19.2	18.8	96	94	69-125	2	30	
2-Butanone (MEK)	ug/L	100	89.3	89.9	89	90	48-145	1	30	
2-Chlorotoluene	ug/L	20	21.2	20.9	106	105	74-125	2	30	
2-Hexanone	ug/L	100	94.2	94.4	94	94	63-135	0	30	
4-Chlorotoluene	ug/L	20	19.7	19.5	98	97	73-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.2	96.2	93	96	53-138	3	30	
Acetone	ug/L	100	91.2	104	91	104	70-142	13	30	
Acrolein	ug/L	200	186	192	93	96	44-150	3	30	
Acrylonitrile	ug/L	200	187	189	93	94	68-125	1	30	
Benzene	ug/L	20	18.0	17.9	90	90	65-125	0	30	
Bromobenzene	ug/L	20	18.8	19.1	94	95	75-125	2	30	
Bromochloromethane	ug/L	20	19.4	18.6	97	93	75-125	4	30	
Bromodichloromethane	ug/L	20	19.1	18.8	96	94	73-125	2	30	
Bromoform	ug/L	20	19.4	20.5	97	102	69-125	5	30	
Bromomethane	ug/L	20	14.3	16.2	72	81	40-136	13	30	
Carbon disulfide	ug/L	20	18.2	18.0	91	90	36-150	1	30	
Carbon tetrachloride	ug/L	20	19.8	19.3	99	96	70-125	3	30	
Chlorobenzene	ug/L	20	18.8	18.8	94	94	75-125	0	30	
Chloroethane	ug/L	20	19.6	19.2	98	96	67-141	2	30	
Chloroform	ug/L	20	17.9	18.0	89	90	75-125	1	30	
Chloromethane	ug/L	20	17.2	16.6	86	83	50-150	4	30	
cis-1,2-Dichloroethene	ug/L	20	17.9	17.7	89	89	75-125	1	30	
cis-1,3-Dichloropropene	ug/L	20	19.6	19.5	98	98	75-125	1	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

LABORATORY CONTROL SAMPLE & LCSD:		2476550		2476551							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	19.2	19.7	96	99	75-125	3	30		
Dibromomethane	ug/L	20	19.4	18.9	97	95	75-129	3	30		
Dichlorodifluoromethane	ug/L	20	17.9	17.8	89	89	59-135	1	30		
Dichlorofluoromethane	ug/L	20	18.1	18.0	90	90	74-130	0	30		
Diisopropyl ether	ug/L	20	18.2	17.9	91	90	71-125	1	30		
Ethyl-tert-butyl ether	ug/L	20	19.5	19.3	97	97	70-130	1	30		
Ethylbenzene	ug/L	20	18.8	18.5	94	93	75-125	1	30		
Hexachloro-1,3-butadiene	ug/L	20	21.3	21.3	106	107	72-126	0	30		
Isopropylbenzene (Cumene)	ug/L	20	19.3	19.2	96	96	71-136	0	30		
m&p-Xylene	ug/L	40	39.2	38.9	98	97	75-125	1	30		
Methyl-tert-butyl ether	ug/L	20	18.8	18.7	94	93	73-127	1	30		
Methylene Chloride	ug/L	20	18.7	18.4	93	92	68-128	1	30		
n-Butylbenzene	ug/L	20	20.7	20.1	103	101	70-126	3	30		
n-Propylbenzene	ug/L	20	19.6	19.2	98	96	67-131	2	30		
Naphthalene	ug/L	20	19.3	19.4	97	97	52-134	0	30		
o-Xylene	ug/L	20	19.4	19.3	97	96	75-125	1	30		
p-Isopropyltoluene	ug/L	20	20.1	20.1	101	100	74-125	0	30		
sec-Butylbenzene	ug/L	20	19.9	19.8	99	99	69-134	1	30		
Styrene	ug/L	20	19.5	19.7	97	99	75-125	1	30		
tert-Amylmethyl ether	ug/L	20	19.1	18.8	95	94	70-130	1	30		
tert-Butyl Alcohol	ug/L	200	181	217	91	109	66-128	18	30		
tert-Butylbenzene	ug/L	20	19.4	19.4	97	97	71-128	0	30		
Tetrachloroethene	ug/L	20	19.0	19.9	95	99	74-125	4	30		
Tetrahydrofuran	ug/L	200	183	203	91	102	64-142	11	30		
Toluene	ug/L	20	17.6	18.0	88	90	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	17.5	17.5	87	88	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	19.5	19.3	98	96	75-125	1	30		
trans-1,4-Dichloro-2-butene	ug/L	50	50.1	50.0	100	100	54-133	0	30		
Trichloroethene	ug/L	20	19.5	19.0	98	95	75-125	3	30		
Trichlorofluoromethane	ug/L	20	19.4	19.5	97	98	75-126	0	30		
Vinyl acetate	ug/L	20	19.3	18.5	97	93	67-126	4	30		
Vinyl chloride	ug/L	20	19.9	19.4	100	97	72-125	3	30		
Xylene (Total)	ug/L	60	58.6	58.2	98	97	75-125	1	30		
1,2-Dichloroethane-d4 (S)	%				101	98	75-125				
4-Bromofluorobenzene (S)	%				101	99	75-125				
Toluene-d8 (S)	%				100	101	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2476552		2476553								
Parameter	Units	10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	18.3	18.8	92	94	75-127	3	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	19.1	18.9	96	94	66-142	1	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.9	18.2	85	91	70-131	8	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	17.8	17.9	89	90	75-128	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

Parameter	Units	2476552		2476553		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MSD Result								
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	21.2	20.8	106	104	54-150	2	30		
1,1-Dichloroethane	ug/L	ND	20	20	18.7	19.0	94	95	58-147	1	30		
1,1-Dichloroethene	ug/L	ND	20	20	19.4	19.0	97	95	49-150	2	30		
1,1-Dichloropropene	ug/L	ND	20	20	19.3	18.8	96	94	58-147	3	30		
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.2	18.7	91	94	57-139	3	30		
1,2,3-Trichloropropane	ug/L	ND	20	20	17.0	18.0	85	90	71-127	6	30		
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.6	19.6	93	98	55-136	5	30		
1,2,4-Trimethylbenzene	ug/L	ND	20	20	18.5	19.3	92	96	67-138	4	30		
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	38.8	44.5	78	89	63-136	14	30		
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.0	18.8	90	94	74-125	4	30		
1,2-Dichlorobenzene	ug/L	ND	20	20	17.7	18.3	88	91	75-125	3	30		
1,2-Dichloroethane	ug/L	ND	20	20	17.3	16.7	86	83	63-133	4	30		
1,2-Dichloroethene (Total)	ug/L	ND	40	40	35.8	34.9	89	87	55-146	3	30		
1,2-Dichloropropane	ug/L	ND	20	20	17.7	17.6	88	88	63-138	0	30		
1,3,5-Trimethylbenzene	ug/L	ND	20	20	17.8	18.8	89	94	69-136	5	30		
1,3-Dichlorobenzene	ug/L	ND	20	20	17.9	18.5	89	93	75-125	4	30		
1,3-Dichloropropane	ug/L	ND	20	20	17.6	17.7	88	89	65-135	1	30		
1,4-Dichlorobenzene	ug/L	ND	20	20	17.9	18.8	89	94	70-126	5	30		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	383	383	96	96	54-145	0	30		
2,2,4-Trimethylpentane	ug/L	ND	20	20	21.1	20.5	105	103	30-150	3	30		
2,2-Dichloropropane	ug/L	ND	20	20	19.4	19.2	97	96	39-148	1	30		
2-Butanone (MEK)	ug/L	ND	100	100	72.6	81.3	73	81	50-144	11	30		
2-Chlorotoluene	ug/L	ND	20	20	19.3	20.0	97	100	71-135	4	30		
2-Hexanone	ug/L	ND	100	100	77.8	88.4	78	88	43-150	13	30		
4-Chlorotoluene	ug/L	ND	20	20	17.8	18.9	89	95	71-131	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	79.4	90.3	79	90	60-147	13	30		
Acetone	ug/L	ND	100	100	98.5	93.9	98	94	59-150	5	30		
Acrolein	ug/L	ND	200	200	177	193	89	97	30-150	9	30		
Acrylonitrile	ug/L	ND	200	200	160	172	80	86	41-148	7	30		
Benzene	ug/L	ND	20	20	17.8	17.7	89	89	61-138	0	30		
Bromobenzene	ug/L	ND	20	20	17.6	18.0	88	90	74-130	2	30		
Bromochloromethane	ug/L	ND	20	20	18.2	18.6	91	93	65-137	2	30		
Bromodichloromethane	ug/L	ND	20	20	17.6	17.9	88	89	66-136	2	30		
Bromoform	ug/L	ND	20	20	18.1	18.2	91	91	71-125	0	30		
Bromomethane	ug/L	ND	20	20	18.5	19.3	93	96	30-150	4	30		
Carbon disulfide	ug/L	ND	20	20	19.3	18.8	96	94	30-150	2	30		
Carbon tetrachloride	ug/L	ND	20	20	20.5	20.5	103	102	68-140	0	30		
Chlorobenzene	ug/L	ND	20	20	17.9	18.4	89	92	75-132	3	30		
Chloroethane	ug/L	ND	20	20	20.2	20.6	101	103	55-150	2	30		
Chloroform	ug/L	ND	20	20	17.6	17.7	88	88	64-139	0	30		
Chloromethane	ug/L	ND	20	20	17.6	17.5	88	88	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	17.5	17.2	88	86	62-138	2	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.0	18.2	90	91	70-125	1	30		
Dibromochloromethane	ug/L	ND	20	20	18.1	18.3	91	92	74-125	1	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Parameter	Units	2476552		2476553		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	ND	20	20	17.7	17.7	89	89	66-138	0	30		
Dichlorodifluoromethane	ug/L	ND	20	20	22.2	21.6	111	108	53-150	3	30		
Dichlorofluoromethane	ug/L	ND	20	20	18.6	18.9	93	94	58-150	1	30		
Diisopropyl ether	ug/L	ND	20	20	17.0	17.2	85	86	50-139	1	30		
Ethyl-tert-butyl ether	ug/L	45.7	20	20	64.4	63.7	93	90	30-140	1	30		
Ethylbenzene	ug/L	ND	20	20	17.7	18.6	89	93	66-141	5	30		
Hexachloro-1,3-butadiene	ug/L	ND	20	20	23.6	23.2	118	116	63-139	2	30		
Isopropylbenzene (Cumene)	ug/L	ND	20	20	17.8	18.6	89	93	65-146	4	30		
m&p-Xylene	ug/L	ND	40	40	37.1	37.6	93	94	72-142	1	30		
Methyl-tert-butyl ether	ug/L	542	20	20	546	539	24	-15	63-134	1	30	E, M1	
Methylene Chloride	ug/L	ND	20	20	17.2	17.3	42	43	49-143	1	30	M1	
n-Butylbenzene	ug/L	ND	20	20	19.7	20.1	99	100	67-134	2	30		
n-Propylbenzene	ug/L	ND	20	20	18.3	19.0	92	95	62-142	4	30		
Naphthalene	ug/L	ND	20	20	16.3	17.9	82	90	41-150	9	30		
o-Xylene	ug/L	ND	20	20	17.8	18.7	89	94	66-138	5	30		
p-Isopropyltoluene	ug/L	ND	20	20	19.1	19.7	95	99	64-137	3	30		
sec-Butylbenzene	ug/L	ND	20	20	19.2	19.7	96	98	65-142	3	30		
Styrene	ug/L	ND	20	20	18.4	18.8	92	94	61-142	2	30		
tert-Amylmethyl ether	ug/L	ND	20	20	17.4	17.1	87	85	65-125	2	30		
tert-Butyl Alcohol	ug/L	ND	200	200	203	200	102	100	59-138	2	30		
tert-Butylbenzene	ug/L	ND	20	20	18.2	18.8	91	94	69-135	3	30		
Tetrachloroethene	ug/L	ND	20	20	19.4	19.8	97	99	62-142	2	30		
Tetrahydrofuran	ug/L	ND	200	200	192	185	96	92	55-150	4	30		
Toluene	ug/L	ND	20	20	17.8	17.9	89	90	66-132	1	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	18.3	17.7	91	88	48-150	3	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.2	18.1	91	90	65-130	1	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	42.3	46.5	85	93	31-150	9	30		
Trichloroethene	ug/L	ND	20	20	18.9	19.0	95	95	64-142	1	30		
Trichlorofluoromethane	ug/L	ND	20	20	22.7	22.5	114	112	63-150	1	30		
Vinyl acetate	ug/L	ND	20	20	22.9	23.0	84	84	30-150	0	30		
Vinyl chloride	ug/L	ND	20	20	21.1	21.3	106	106	58-150	1	30		
Xylene (Total)	ug/L	ND	60	60	55.0	56.3	92	94	70-140	2	30		
1,2-Dichloroethane-d4 (S)	%						103	96	75-125				
4-Bromofluorobenzene (S)	%						101	100	75-125				
Toluene-d8 (S)	%						101	102	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 452127 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10372484001

METHOD BLANK: 2475319 Matrix: Water
Associated Lab Samples: 10372484001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	12/16/16 09:58	

LABORATORY CONTROL SAMPLE & LCSD: 2475320 2475321

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	42.0	42.3	105	106	90-110	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2475322 2475323

Parameter	Units	10373187001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	69.8	40	40	111	110	102	102	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2475324 2475325

Parameter	Units	10372525004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	631	40	40	696	658	162	69	80-120	6	30	M1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 452257 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10372484002, 10372484003, 10372484004

METHOD BLANK: 2476102 Matrix: Water
Associated Lab Samples: 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	12/17/16 15:20	

LABORATORY CONTROL SAMPLE & LCSD: 2476103 2476104

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	42.1	42.3	105	106	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2476105 2476106

Parameter	Units	10372484002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	308	40	40	337	348	72	98	80-120	3	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2476107 2476108

Parameter	Units	10372875001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	122	40	40	162	162	100	98	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

QC Batch: 69956

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

METHOD BLANK: 291893

Matrix: Water

Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/14/16 14:42	

LABORATORY CONTROL SAMPLE: 291894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.19	93	90-110	

MATRIX SPIKE SAMPLE: 291896

Parameter	Units	2047251001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.21	97	75-125	

SAMPLE DUPLICATE: 291895

Parameter	Units	2047251001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.017J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

QC Batch: 450900 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

METHOD BLANK: 2468766 Matrix: Water
 Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/08/16 15:42	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/08/16 15:42	
Sulfate	mg/L	<0.16	1.2	0.16	12/08/16 15:42	

LABORATORY CONTROL SAMPLE: 2468767

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.2	98	90-110	
Nitrate as N	mg/L	1	1.1	108	90-110	
Sulfate	mg/L	12.5	11.8	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2468768 2468769

Parameter	Units	10372484001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	10.7	12.5	12.5	21.3	21.3	85	85	90-110	0	20	M1
Nitrate as N	mg/L	7.6	1	1	7.4	7.5	-12	-11	90-110	0	20	M1
Sulfate	mg/L	22.7	12.5	12.5	31.8	31.9	73	73	90-110	0	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2468770 2468771

Parameter	Units	10372484002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.1J	12.5	12.5	12.8	12.8	94	93	90-110	0	20	
Nitrate as N	mg/L	0.18	1	1	1.1	1.1	89	88	90-110	0	20	M1
Sulfate	mg/L	2.7	12.5	12.5	14.4	14.3	93	93	90-110	0	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372484

QC Batch: 102382 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

METHOD BLANK: 406971 Matrix: Water
Associated Lab Samples: 10372484001, 10372484002, 10372484003, 10372484004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/16/16 15:35	

LABORATORY CONTROL SAMPLE: 406972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406973 406974

Parameter	Units	10372484001 Result	MS		MSD		% Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Total Organic Carbon	mg/L	0.77J	25	27.0	25	27.1	105	105	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406975 406976

Parameter	Units	1280326003 Result	MS		MSD		% Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	MSD Spike Conc.	MSD Result						
Total Organic Carbon	mg/L	26.4	50	78.3	50	78.7	104	105	80-120	0	20	

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 451041

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372484

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10372484001	MW7S-GW-120716	RSK 175	451285		
10372484002	MW10S-GW-120716	RSK 175	451285		
10372484003	MW11S-GW-120716	RSK 175	451285		
10372484004	WS5-GW-IN-120716	RSK 175	451285		
10372484001	MW7S-GW-120716	EPA 3010	451494	6010C Met	451518
10372484002	MW10S-GW-120716	EPA 3010	451494	6010C Met	451518
10372484003	MW11S-GW-120716	EPA 3010	451494	6010C Met	451518
10372484004	WS5-GW-IN-120716	EPA 3010	451494	6010C Met	451518
10372484001	MW7S-GW-120716	EPA 7470A	451693	EPA 7470A	451805
10372484002	MW10S-GW-120716	EPA 7470A	451693	EPA 7470A	451805
10372484003	MW11S-GW-120716	EPA 7470A	451693	EPA 7470A	451805
10372484004	WS5-GW-IN-120716	EPA 7470A	451693	EPA 7470A	451805
10372484001	MW7S-GW-120716	EPA 8260B	452383		
10372484002	MW10S-GW-120716	EPA 8260B	451041		
10372484003	MW11S-GW-120716	EPA 8260B	451041		
10372484004	WS5-GW-IN-120716	EPA 8260B	451041		
10372484005	WS5-GW-EF-120716	EPA 8260B	451041		
10372484006	Trip Blank	EPA 8260B	451041		
10372484001	MW7S-GW-120716	SM 2320B	452127		
10372484002	MW10S-GW-120716	SM 2320B	452257		
10372484003	MW11S-GW-120716	SM 2320B	452257		
10372484004	WS5-GW-IN-120716	SM 2320B	452257		
10372484001	MW7S-GW-120716	SM 4500-S-2 D	69956		
10372484002	MW10S-GW-120716	SM 4500-S-2 D	69956		
10372484003	MW11S-GW-120716	SM 4500-S-2 D	69956		
10372484004	WS5-GW-IN-120716	SM 4500-S-2 D	69956		
10372484001	MW7S-GW-120716	EPA 300.0	450900		
10372484002	MW10S-GW-120716	EPA 300.0	450900		
10372484003	MW11S-GW-120716	EPA 300.0	450900		
10372484004	WS5-GW-IN-120716	EPA 300.0	450900		
10372484001	MW7S-GW-120716	SM 5310C	102382		
10372484002	MW10S-GW-120716	SM 5310C	102382		
10372484003	MW11S-GW-120716	SM 5310C	102382		
10372484004	WS5-GW-IN-120716	SM 5310C	102382		

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: UPRR CH2M Hill **Project #:** _____

WO# : 10372484

10372484

Optional: Proj. Due Date: _____ Proj. Name: _____

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 7021 4575 4731

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer Used: 151401163 B88A912167504 B88A0143310098 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 17.0.8 **Cooler Temp Corrected (°C):** 17.0.8 **Biological Tissue Frozen?** Yes No N/A

Temp should be above freezing to 6°C **Correction Factor:** True **Date and Initials of Person Examining Contents:** 12-8-16/DA

USDA Regulated Soil N/A, water sample

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>1-4 1/2</u>
(HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: <u>VOA</u> , Coliform, <u>DOC</u> , Oil and Grease, DRO/8015 (water) DOC	
Per method, VOA pH is checked after analysis <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>103981</u>	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>1120</u>	Temp: <u>17.0.8</u>	Corrected Temp: <u>17.0.8</u>
Time: <u>1145</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS **Date:** 12/08/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2047089

tical[®]
sbs.com



2047089
12/07/2016

Results Requested By: 12/22/2016

Workorder: 10372484

Workorder Name: 1497 UPRR_Freeman

Owner Received Date:

Report To		Subcontract To				Requested Analysis																	
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																					
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers					4500 Sulfide	LAB USE ONLY											
						Other																	
1	MW7S-GW-120716	PS	12/7/2016 09:30	10372484001	Water	1					X												
2	MW10S-GW-120716	PS	12/7/2016 11:45	10372484002	Water	1					X												
3	MW11S-GW-120716	PS	12/7/2016 13:50	10372484003	Water	1					X												
4	WS5-GW-IN-120716	PS	12/7/2016 12:55	10372484004	Water	1					X												
5																							

Transfers					Comments				
Released By	Date/Time	Received By	Date/Time						
<i>[Signature]</i> Pace MN	12/8/16 1320								
<i>[Signature]</i>	12-9-16 0850	<i>[Signature]</i>	12-9-16 0850						

Cooler Temperature on Receipt 1.5 °C Custody Seal (Y) or N Received on Ice (Y) or N Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd, Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project

WO#: 2047089

PM: ADC

Due Date: 12/23/16

CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: KAR

Temp must be measured from Temperature blank when present

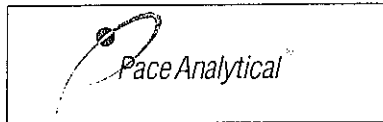
Comments:

Temperature Blank Present??	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	500 ml
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form
 Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
 Page 1 of 1
 Issuing Authority:
 Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: pace-MV Project #: _____

WO# : 1280190

 1280190

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: None Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.2 Cooler Temp Corrected °C: 2.9 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: TC3 Date and Initials of Person Examining Contents: JPA 12/8/16

Comments: CA 12-9-16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WJ</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrigan Date: 12/9/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 22, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

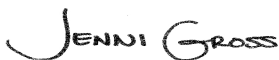
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10372848001	MW4D-GW-120816	Water	12/08/16 12:45	12/10/16 08:55
10372848002	MW6D-GW-FD-120816	Water	12/08/16 09:55	12/10/16 08:55
10372848003	MW6D-GW-120816	Water	12/08/16 09:50	12/10/16 08:55
10372848004	MW5D-GW-120816	Water	12/08/16 15:05	12/10/16 08:55
10372848005	Trip Blank	Water	12/08/16 00:00	12/10/16 08:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10372848001	MW4D-GW-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848002	MW6D-GW-FD-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	PRD	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848003	MW6D-GW-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848004	MW5D-GW-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848005	Trip Blank	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10372848001	MW4D-GW-120816					
RSK 175	Methane	1.1J	ug/L	10.0	12/14/16 13:37	
6010C Met	Barium, Dissolved	49.5	ug/L	10.0	12/13/16 15:03	
6010C Met	Beryllium, Dissolved	0.11J	ug/L	5.0	12/13/16 15:03	
6010C Met	Calcium, Dissolved	40000	ug/L	500	12/13/16 15:03	
6010C Met	Cobalt, Dissolved	1.3J	ug/L	10.0	12/13/16 15:03	
6010C Met	Magnesium, Dissolved	13400	ug/L	500	12/13/16 15:03	
6010C Met	Manganese, Dissolved	57.1	ug/L	5.0	12/13/16 15:03	
6010C Met	Potassium, Dissolved	2430J	ug/L	2500	12/13/16 15:03	
6010C Met	Sodium, Dissolved	15900	ug/L	1000	12/13/16 15:03	
6010C Met	Thallium, Dissolved	4.5J	ug/L	20.0	12/13/16 15:03	
6010C Met	Vanadium, Dissolved	12.1J	ug/L	15.0	12/13/16 15:03	
6010C Met	Zinc, Dissolved	2.1J	ug/L	20.0	12/13/16 15:03	
EPA 8260B	Carbon tetrachloride	6.7	ug/L	1.0	12/19/16 14:59	
EPA 8260B	Chloroform	0.85J	ug/L	1.0	12/19/16 14:59	
SM 2320B	Alkalinity, Total as CaCO3	160	mg/L	5.0	12/22/16 12:03	
SM 2540C	Total Dissolved Solids	248	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	3.7	mg/L	1.2	12/10/16 23:36	
EPA 300.0	Nitrate as N	1.7	mg/L	0.10	12/10/16 23:36	H1,M1
EPA 300.0	Sulfate	11.3	mg/L	1.2	12/10/16 23:36	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	12/16/16 21:29	
10372848002	MW6D-GW-FD-120816					
RSK 175	Methane	1.7J	ug/L	10.0	12/14/16 13:45	
6010C Met	Arsenic, Dissolved	2.6J	ug/L	20.0	12/13/16 15:05	
6010C Met	Barium, Dissolved	13.6	ug/L	10.0	12/13/16 15:05	
6010C Met	Calcium, Dissolved	32900	ug/L	500	12/13/16 15:05	
6010C Met	Magnesium, Dissolved	14600	ug/L	500	12/13/16 15:05	
6010C Met	Manganese, Dissolved	0.78J	ug/L	5.0	12/13/16 15:05	
6010C Met	Potassium, Dissolved	7260	ug/L	2500	12/13/16 15:05	
6010C Met	Sodium, Dissolved	18400	ug/L	1000	12/13/16 15:05	
6010C Met	Vanadium, Dissolved	11.8J	ug/L	15.0	12/13/16 15:05	
EPA 8260B	Carbon tetrachloride	1.2	ug/L	1.0	12/15/16 18:59	
SM 2320B	Alkalinity, Total as CaCO3	178	mg/L	5.0	12/22/16 12:32	
SM 2540C	Total Dissolved Solids	223	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	2.9	mg/L	1.2	12/11/16 01:33	
EPA 300.0	Nitrate as N	0.33	mg/L	0.10	12/11/16 01:33	H1
EPA 300.0	Sulfate	5.5	mg/L	1.2	12/11/16 01:33	
SM 5310C	Total Organic Carbon	0.43J	mg/L	1.0	12/16/16 21:43	
10372848003	MW6D-GW-120816					
RSK 175	Methane	1.7J	ug/L	10.0	12/14/16 13:54	
6010C Met	Barium, Dissolved	13.4	ug/L	10.0	12/13/16 15:08	
6010C Met	Calcium, Dissolved	32600	ug/L	500	12/13/16 15:08	
6010C Met	Lead, Dissolved	2.4J	ug/L	10.0	12/13/16 15:08	
6010C Met	Magnesium, Dissolved	14500	ug/L	500	12/13/16 15:08	
6010C Met	Manganese, Dissolved	0.67J	ug/L	5.0	12/13/16 15:08	
6010C Met	Potassium, Dissolved	7180	ug/L	2500	12/13/16 15:08	
6010C Met	Sodium, Dissolved	18300	ug/L	1000	12/13/16 15:08	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10372848003	MW6D-GW-120816					
6010C Met	Vanadium, Dissolved	11.8J	ug/L	15.0	12/13/16 15:08	
6010C Met	Zinc, Dissolved	1.4J	ug/L	20.0	12/13/16 15:08	
EPA 8260B	Carbon tetrachloride	1.4	ug/L	1.0	12/19/16 15:21	
SM 2320B	Alkalinity, Total as CaCO3	170	mg/L	5.0	12/22/16 12:36	
SM 2540C	Total Dissolved Solids	221	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	2.9	mg/L	1.2	12/11/16 01:48	
EPA 300.0	Nitrate as N	0.35	mg/L	0.10	12/11/16 01:48	H1
EPA 300.0	Sulfate	5.6	mg/L	1.2	12/11/16 01:48	
SM 5310C	Total Organic Carbon	0.39J	mg/L	1.0	12/16/16 21:57	
10372848004	MW5D-GW-120816					
RSK 175	Methane	1.6J	ug/L	10.0	12/14/16 14:02	
6010C Met	Barium, Dissolved	98.5	ug/L	10.0	12/13/16 15:11	
6010C Met	Calcium, Dissolved	48300	ug/L	500	12/13/16 15:11	
6010C Met	Cobalt, Dissolved	0.71J	ug/L	10.0	12/13/16 15:11	
6010C Met	Iron, Dissolved	18.2J	ug/L	50.0	12/13/16 15:11	
6010C Met	Magnesium, Dissolved	14200	ug/L	500	12/13/16 15:11	
6010C Met	Manganese, Dissolved	95.3	ug/L	5.0	12/13/16 15:11	
6010C Met	Potassium, Dissolved	3350	ug/L	2500	12/13/16 15:11	
6010C Met	Sodium, Dissolved	34900	ug/L	1000	12/13/16 15:11	
6010C Met	Vanadium, Dissolved	2.1J	ug/L	15.0	12/13/16 15:11	
SM 2320B	Alkalinity, Total as CaCO3	213	mg/L	5.0	12/22/16 12:40	
SM 2540C	Total Dissolved Solids	302	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	8.1	mg/L	1.2	12/11/16 00:39	
EPA 300.0	Nitrate as N	0.65	mg/L	0.10	12/11/16 00:39	H1
EPA 300.0	Sulfate	20.4	mg/L	1.2	12/11/16 00:39	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	12/16/16 22:12	
10372848005	Trip Blank					
EPA 8260B	Methylene Chloride	0.37J	ug/L	4.0	12/14/16 12:37	

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 451681

R1: RPD value was outside control limits.

- DUP (Lab ID: 2474723)
- Methane

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

- MW6D-GW-FD-120816 (Lab ID: 10372848002)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 451946

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2474528)
 - Acrolein
- LCSD (Lab ID: 2474529)
 - Acrolein
- MS (Lab ID: 2475469)
 - Acrolein

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2474527)
 - trans-1,4-Dichloro-2-butene
- DUP (Lab ID: 2475470)
 - trans-1,4-Dichloro-2-butene
- LCS (Lab ID: 2474528)
 - trans-1,4-Dichloro-2-butene
- LCSD (Lab ID: 2474529)
 - trans-1,4-Dichloro-2-butene
- MS (Lab ID: 2475469)
 - trans-1,4-Dichloro-2-butene
- MW6D-GW-FD-120816 (Lab ID: 10372848002)
 - trans-1,4-Dichloro-2-butene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 451675

LO: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2473230)
 - Carbon tetrachloride
 - Dibromochloromethane
- LCSD (Lab ID: 2473231)
 - 1,1,1,2-Tetrachloroethane
 - Bromoform
 - Carbon tetrachloride
 - Dibromochloromethane
 - Hexachloro-1,3-butadiene

QC Batch: 451946

LO: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCSD (Lab ID: 2474529)
 - Acrolein
 - trans-1,4-Dichloro-2-butene

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451675

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 451946

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 452383

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373582004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2476552)
 - Methyl-tert-butyl ether
 - Methylene Chloride
- MSD (Lab ID: 2476553)
 - Methyl-tert-butyl ether
 - Methylene Chloride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

Additional Comments:

Analyte Comments:

QC Batch: 451675

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DUP (Lab ID: 2476595)
 - Tetrachloroethene
- MS (Lab ID: 2473232)
 - Tetrachloroethene

QC Batch: 452383

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2476552)
 - Methyl-tert-butyl ether
- MSD (Lab ID: 2476553)
 - Methyl-tert-butyl ether

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 452970

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372848001,10372883004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2479804)
 - Alkalinity, Total as CaCO₃
- MSD (Lab ID: 2479805)
 - Alkalinity, Total as CaCO₃

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- MW4D-GW-120816 (Lab ID: 10372848001)
- MW5D-GW-120816 (Lab ID: 10372848004)
- MW6D-GW-120816 (Lab ID: 10372848003)
- MW6D-GW-FD-120816 (Lab ID: 10372848002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451202

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372848001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2470880)
 - Nitrate as N
- MSD (Lab ID: 2470881)
 - Nitrate as N

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW4D-GW-120816 **Lab ID: 10372848001** Collected: 12/08/16 12:45 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 13:37	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 13:37	74-85-1	
Methane	1.1J	ug/L	10.0	0.49	1		12/14/16 13:37	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:03	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:03	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:03	7440-38-2	
Barium, Dissolved	49.5	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:03	7440-39-3	
Beryllium, Dissolved	0.11J	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:03	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:03	7440-43-9	
Calcium, Dissolved	40000	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:03	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:03	7440-47-3	
Cobalt, Dissolved	1.3J	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:03	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:03	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:03	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:03	7439-92-1	
Magnesium, Dissolved	13400	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:03	7439-95-4	
Manganese, Dissolved	57.1	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:03	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:03	7440-02-0	
Potassium, Dissolved	2430J	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:03	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:03	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:03	7440-22-4	
Sodium, Dissolved	15900	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:03	7440-23-5	
Thallium, Dissolved	4.5J	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:03	7440-28-0	
Vanadium, Dissolved	12.1J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:03	7440-62-2	
Zinc, Dissolved	2.1J	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:03	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:44	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/19/16 14:59	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:59	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/19/16 14:59	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:59	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/19/16 14:59	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/19/16 14:59	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/19/16 14:59	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/19/16 14:59	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/19/16 14:59	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/19/16 14:59	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/19/16 14:59	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/19/16 14:59	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: **MW4D-GW-120816** Lab ID: **10372848001** Collected: 12/08/16 12:45 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/19/16 14:59	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/19/16 14:59	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/19/16 14:59	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/19/16 14:59	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/19/16 14:59	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/19/16 14:59	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/19/16 14:59	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/19/16 14:59	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/19/16 14:59	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/19/16 14:59	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/19/16 14:59	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/19/16 14:59	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/19/16 14:59	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/19/16 14:59	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/19/16 14:59	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/19/16 14:59	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/19/16 14:59	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/19/16 14:59	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/19/16 14:59	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/19/16 14:59	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/19/16 14:59	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/19/16 14:59	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/19/16 14:59	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/19/16 14:59	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/19/16 14:59	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/19/16 14:59	75-15-0	
Carbon tetrachloride	6.7	ug/L	1.0	0.079	1		12/19/16 14:59	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/19/16 14:59	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/19/16 14:59	75-00-3	
Chloroform	0.85J	ug/L	1.0	0.21	1		12/19/16 14:59	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/19/16 14:59	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		12/19/16 14:59	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/19/16 14:59	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/19/16 14:59	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/19/16 14:59	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/19/16 14:59	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/19/16 14:59	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/19/16 14:59	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/19/16 14:59	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/19/16 14:59	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/19/16 14:59	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/19/16 14:59	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/19/16 14:59	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/19/16 14:59	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/19/16 14:59	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW4D-GW-120816 **Lab ID: 10372848001** Collected: 12/08/16 12:45 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/19/16 14:59	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/19/16 14:59	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:59	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/19/16 14:59	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/19/16 14:59	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/19/16 14:59	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/19/16 14:59	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/19/16 14:59	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/19/16 14:59	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/19/16 14:59	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/19/16 14:59	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/19/16 14:59	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/19/16 14:59	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/19/16 14:59	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/19/16 14:59	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/19/16 14:59	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/19/16 14:59	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/19/16 14:59	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/19/16 14:59	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		12/19/16 14:59	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		12/19/16 14:59	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/19/16 14:59	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	160	mg/L	5.0	1.4	1		12/22/16 12:03		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	248	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:48	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	3.7	mg/L	1.2	0.10	1		12/10/16 23:36	16887-00-6	
Nitrate as N	1.7	mg/L	0.10	0.013	1		12/10/16 23:36	14797-55-8	H1,M1
Sulfate	11.3	mg/L	1.2	0.16	1		12/10/16 23:36	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.0	mg/L	1.0	0.20	1		12/16/16 21:29	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-FD-120816 **Lab ID:** 10372848002 Collected: 12/08/16 09:55 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 13:45	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 13:45	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		12/14/16 13:45	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:05	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:05	7440-36-0	
Arsenic, Dissolved	2.6J	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:05	7440-38-2	
Barium, Dissolved	13.6	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:05	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:05	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:05	7440-43-9	
Calcium, Dissolved	32900	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:05	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:05	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:05	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:05	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:05	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:05	7439-92-1	
Magnesium, Dissolved	14600	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:05	7439-95-4	
Manganese, Dissolved	0.78J	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:05	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:05	7440-02-0	
Potassium, Dissolved	7260	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:05	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:05	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:05	7440-22-4	
Sodium, Dissolved	18400	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:05	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:05	7440-28-0	
Vanadium, Dissolved	11.8J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:05	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:05	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:46	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/15/16 18:59	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/15/16 18:59	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/15/16 18:59	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/15/16 18:59	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/15/16 18:59	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/15/16 18:59	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/15/16 18:59	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/15/16 18:59	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/15/16 18:59	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/15/16 18:59	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/15/16 18:59	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/15/16 18:59	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-FD-120816 Lab ID: 10372848002 Collected: 12/08/16 09:55 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/15/16 18:59	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/15/16 18:59	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/15/16 18:59	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/15/16 18:59	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/15/16 18:59	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/15/16 18:59	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/15/16 18:59	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/15/16 18:59	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/15/16 18:59	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/15/16 18:59	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/15/16 18:59	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/15/16 18:59	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/15/16 18:59	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/15/16 18:59	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/15/16 18:59	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/15/16 18:59	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/15/16 18:59	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/15/16 18:59	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/15/16 18:59	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/15/16 18:59	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/15/16 18:59	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/15/16 18:59	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/15/16 18:59	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/15/16 18:59	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/15/16 18:59	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/15/16 18:59	75-15-0	
Carbon tetrachloride	1.2	ug/L	1.0	0.079	1		12/15/16 18:59	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/15/16 18:59	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/15/16 18:59	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/15/16 18:59	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/15/16 18:59	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/15/16 18:59	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/15/16 18:59	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/15/16 18:59	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/15/16 18:59	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/15/16 18:59	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/15/16 18:59	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/15/16 18:59	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/15/16 18:59	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/15/16 18:59	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/15/16 18:59	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/15/16 18:59	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/15/16 18:59	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/15/16 18:59	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/15/16 18:59	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-FD-120816 **Lab ID: 10372848002** Collected: 12/08/16 09:55 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/15/16 18:59	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/15/16 18:59	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/15/16 18:59	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/15/16 18:59	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/15/16 18:59	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/15/16 18:59	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/15/16 18:59	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/15/16 18:59	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/15/16 18:59	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/15/16 18:59	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/15/16 18:59	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/15/16 18:59	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/15/16 18:59	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/15/16 18:59	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/15/16 18:59	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/15/16 18:59	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/15/16 18:59	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/15/16 18:59	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/15/16 18:59	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/15/16 18:59	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/15/16 18:59	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/15/16 18:59	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	178	mg/L	5.0	1.4	1		12/22/16 12:32		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	223	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:49	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	2.9	mg/L	1.2	0.10	1		12/11/16 01:33	16887-00-6	
Nitrate as N	0.33	mg/L	0.10	0.013	1		12/11/16 01:33	14797-55-8	H1
Sulfate	5.5	mg/L	1.2	0.16	1		12/11/16 01:33	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	0.43J	mg/L	1.0	0.20	1		12/16/16 21:43	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-120816 **Lab ID: 10372848003** Collected: 12/08/16 09:50 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 13:54	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 13:54	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		12/14/16 13:54	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:08	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:08	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:08	7440-38-2	
Barium, Dissolved	13.4	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:08	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:08	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:08	7440-43-9	
Calcium, Dissolved	32600	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:08	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:08	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:08	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:08	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:08	7439-89-6	
Lead, Dissolved	2.4J	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:08	7439-92-1	
Magnesium, Dissolved	14500	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:08	7439-95-4	
Manganese, Dissolved	0.67J	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:08	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:08	7440-02-0	
Potassium, Dissolved	7180	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:08	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:08	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:08	7440-22-4	
Sodium, Dissolved	18300	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:08	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:08	7440-28-0	
Vanadium, Dissolved	11.8J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:08	7440-62-2	
Zinc, Dissolved	1.4J	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:08	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:49	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/19/16 15:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 15:21	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/19/16 15:21	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 15:21	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/19/16 15:21	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/19/16 15:21	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/19/16 15:21	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/19/16 15:21	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/19/16 15:21	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/19/16 15:21	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/19/16 15:21	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/19/16 15:21	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: **MW6D-GW-120816** Lab ID: **10372848003** Collected: 12/08/16 09:50 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/19/16 15:21	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/19/16 15:21	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/19/16 15:21	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/19/16 15:21	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/19/16 15:21	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/19/16 15:21	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/19/16 15:21	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/19/16 15:21	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/19/16 15:21	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/19/16 15:21	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/19/16 15:21	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/19/16 15:21	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/19/16 15:21	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/19/16 15:21	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/19/16 15:21	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/19/16 15:21	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/19/16 15:21	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/19/16 15:21	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/19/16 15:21	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/19/16 15:21	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/19/16 15:21	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/19/16 15:21	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/19/16 15:21	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/19/16 15:21	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/19/16 15:21	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/19/16 15:21	75-15-0	
Carbon tetrachloride	1.4	ug/L	1.0	0.079	1		12/19/16 15:21	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/19/16 15:21	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/19/16 15:21	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/19/16 15:21	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/19/16 15:21	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		12/19/16 15:21	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/19/16 15:21	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/19/16 15:21	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/19/16 15:21	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/19/16 15:21	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/19/16 15:21	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/19/16 15:21	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/19/16 15:21	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/19/16 15:21	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/19/16 15:21	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/19/16 15:21	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/19/16 15:21	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/19/16 15:21	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/19/16 15:21	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-120816 **Lab ID: 10372848003** Collected: 12/08/16 09:50 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/19/16 15:21	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/19/16 15:21	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/19/16 15:21	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/19/16 15:21	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/19/16 15:21	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/19/16 15:21	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/19/16 15:21	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/19/16 15:21	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/19/16 15:21	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/19/16 15:21	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/19/16 15:21	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/19/16 15:21	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/19/16 15:21	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/19/16 15:21	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/19/16 15:21	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/19/16 15:21	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/19/16 15:21	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/19/16 15:21	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/19/16 15:21	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	75-125		1		12/19/16 15:21	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/19/16 15:21	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/19/16 15:21	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	170	mg/L	5.0	1.4	1		12/22/16 12:36		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	221	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:50	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	2.9	mg/L	1.2	0.10	1		12/11/16 01:48	16887-00-6	
Nitrate as N	0.35	mg/L	0.10	0.013	1		12/11/16 01:48	14797-55-8	H1
Sulfate	5.6	mg/L	1.2	0.16	1		12/11/16 01:48	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	0.39J	mg/L	1.0	0.20	1		12/16/16 21:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW5D-GW-120816 **Lab ID: 10372848004** Collected: 12/08/16 15:05 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 14:02	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 14:02	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		12/14/16 14:02	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:11	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:11	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:11	7440-38-2	
Barium, Dissolved	98.5	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:11	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:11	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:11	7440-43-9	
Calcium, Dissolved	48300	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:11	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:11	7440-47-3	
Cobalt, Dissolved	0.71J	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:11	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:11	7440-50-8	
Iron, Dissolved	18.2J	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:11	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:11	7439-92-1	
Magnesium, Dissolved	14200	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:11	7439-95-4	
Manganese, Dissolved	95.3	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:11	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:11	7440-02-0	
Potassium, Dissolved	3350	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:11	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:11	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:11	7440-22-4	
Sodium, Dissolved	34900	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:11	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:11	7440-28-0	
Vanadium, Dissolved	2.1J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:11	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:11	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:51	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/14/16 16:30	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 16:30	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/14/16 16:30	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 16:30	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/14/16 16:30	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/14/16 16:30	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/14/16 16:30	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/14/16 16:30	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/14/16 16:30	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/14/16 16:30	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/14/16 16:30	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/14/16 16:30	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW5D-GW-120816 Lab ID: 10372848004 Collected: 12/08/16 15:05 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/14/16 16:30	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/14/16 16:30	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/14/16 16:30	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/14/16 16:30	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/14/16 16:30	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/14/16 16:30	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/14/16 16:30	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/14/16 16:30	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/14/16 16:30	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/14/16 16:30	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/14/16 16:30	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/14/16 16:30	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/14/16 16:30	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/14/16 16:30	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/14/16 16:30	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/14/16 16:30	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/14/16 16:30	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/14/16 16:30	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/14/16 16:30	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/14/16 16:30	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/14/16 16:30	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/14/16 16:30	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/14/16 16:30	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/14/16 16:30	75-25-2	L3
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/14/16 16:30	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/14/16 16:30	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/14/16 16:30	56-23-5	L3
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/14/16 16:30	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/14/16 16:30	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/14/16 16:30	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/14/16 16:30	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/14/16 16:30	124-48-1	L3
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/14/16 16:30	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/14/16 16:30	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/14/16 16:30	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/14/16 16:30	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/14/16 16:30	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/14/16 16:30	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/14/16 16:30	87-68-3	L3
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/14/16 16:30	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/14/16 16:30	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/14/16 16:30	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/14/16 16:30	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/14/16 16:30	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/14/16 16:30	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW5D-GW-120816 **Lab ID: 10372848004** Collected: 12/08/16 15:05 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/14/16 16:30	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/14/16 16:30	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/14/16 16:30	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/14/16 16:30	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/14/16 16:30	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/14/16 16:30	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/14/16 16:30	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/14/16 16:30	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/14/16 16:30	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/14/16 16:30	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/14/16 16:30	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/14/16 16:30	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/14/16 16:30	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/14/16 16:30	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/14/16 16:30	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/14/16 16:30	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/14/16 16:30	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/14/16 16:30	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/14/16 16:30	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	116	%	75-125		1		12/14/16 16:30	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/14/16 16:30	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/14/16 16:30	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	213	mg/L	5.0	1.4	1		12/22/16 12:40		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	302	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:50	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	8.1	mg/L	1.2	0.10	1		12/11/16 00:39	16887-00-6	
Nitrate as N	0.65	mg/L	0.10	0.013	1		12/11/16 00:39	14797-55-8	H1
Sulfate	20.4	mg/L	1.2	0.16	1		12/11/16 00:39	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	1.8	mg/L	1.0	0.20	1		12/16/16 22:12	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: Trip Blank **Lab ID: 10372848005** Collected: 12/08/16 00:00 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/14/16 12:37	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 12:37	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/14/16 12:37	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 12:37	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/14/16 12:37	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/14/16 12:37	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/14/16 12:37	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/14/16 12:37	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/14/16 12:37	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/14/16 12:37	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/14/16 12:37	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/14/16 12:37	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/14/16 12:37	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/14/16 12:37	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/14/16 12:37	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/14/16 12:37	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/14/16 12:37	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/14/16 12:37	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/14/16 12:37	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/14/16 12:37	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/14/16 12:37	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/14/16 12:37	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/14/16 12:37	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/14/16 12:37	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/14/16 12:37	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/14/16 12:37	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/14/16 12:37	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/14/16 12:37	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/14/16 12:37	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/14/16 12:37	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/14/16 12:37	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/14/16 12:37	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/14/16 12:37	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/14/16 12:37	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/14/16 12:37	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/14/16 12:37	75-25-2	L3
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/14/16 12:37	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/14/16 12:37	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/14/16 12:37	56-23-5	L3
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/14/16 12:37	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/14/16 12:37	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/14/16 12:37	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/14/16 12:37	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/14/16 12:37	124-48-1	L3

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: Trip Blank **Lab ID: 10372848005** Collected: 12/08/16 00:00 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/14/16 12:37	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/14/16 12:37	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/14/16 12:37	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/14/16 12:37	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/14/16 12:37	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/14/16 12:37	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/14/16 12:37	87-68-3	L3
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/14/16 12:37	1634-04-4	
Methylene Chloride	0.37J	ug/L	4.0	0.097	1		12/14/16 12:37	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/14/16 12:37	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/14/16 12:37	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/14/16 12:37	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/14/16 12:37	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/14/16 12:37	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/14/16 12:37	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/14/16 12:37	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/14/16 12:37	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/14/16 12:37	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/14/16 12:37	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/14/16 12:37	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/14/16 12:37	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/14/16 12:37	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/14/16 12:37	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/14/16 12:37	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/14/16 12:37	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/14/16 12:37	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/14/16 12:37	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/14/16 12:37	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/14/16 12:37	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/14/16 12:37	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/14/16 12:37	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/14/16 12:37	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		12/14/16 12:37	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/14/16 12:37	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/14/16 12:37	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 451681 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2473244 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/14/16 11:11	
Ethene	ug/L	<0.77	10.0	0.77	12/14/16 11:11	
Methane	ug/L	1.8J	10.0	0.49	12/14/16 11:11	

LABORATORY CONTROL SAMPLE & LCSD: 2473245

Parameter	Units	2473246							Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD		
Ethane	ug/L	114	114	120	100	106	85-115	5	20	
Ethene	ug/L	106	108	113	102	106	85-115	5	20	
Methane	ug/L	60.7	61.0	63.9	101	105	85-115	5	20	

SAMPLE DUPLICATE: 2474721

Parameter	Units	60234016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	ND	1.8J		20	

SAMPLE DUPLICATE: 2474723

Parameter	Units	60234016005 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	7620	5780	27	20 R1	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451720

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2473369

Matrix: Water

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/13/16 16:14	

LABORATORY CONTROL SAMPLE: 2473370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2473371 2473372

Parameter	Units	2473371		2473372		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10373158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury, Dissolved	ug/L	<0.031	5	5	5.1	5.0	102	99	80-120	3	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 451496 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2472101 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/13/16 14:37	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/13/16 14:37	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/13/16 14:37	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	12/13/16 14:37	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/13/16 14:37	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/13/16 14:37	
Calcium, Dissolved	ug/L	23.1J	500	15.8	12/13/16 14:37	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/13/16 14:37	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/13/16 14:37	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/13/16 14:37	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/13/16 14:37	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/13/16 14:37	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/13/16 14:37	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/13/16 14:37	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/13/16 14:37	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/13/16 14:37	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/13/16 14:37	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/13/16 14:37	
Sodium, Dissolved	ug/L	26.6J	1000	12.0	12/13/16 14:37	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/13/16 14:37	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/13/16 14:37	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/13/16 14:37	

LABORATORY CONTROL SAMPLE: 2472102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	21400	107	80-120	
Antimony, Dissolved	ug/L	1000	1020	102	80-120	
Arsenic, Dissolved	ug/L	1000	1040	104	80-120	
Barium, Dissolved	ug/L	1000	1040	104	80-120	
Beryllium, Dissolved	ug/L	1000	1040	104	80-120	
Cadmium, Dissolved	ug/L	1000	1040	104	80-120	
Calcium, Dissolved	ug/L	20000	20300	102	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1030	103	80-120	
Copper, Dissolved	ug/L	1000	1010	101	80-120	
Iron, Dissolved	ug/L	20000	20300	101	80-120	
Lead, Dissolved	ug/L	1000	1040	104	80-120	
Magnesium, Dissolved	ug/L	20000	20400	102	80-120	
Manganese, Dissolved	ug/L	1000	1040	104	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE: 2472102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1030	103	80-120	
Potassium, Dissolved	ug/L	20000	19800	99	80-120	
Selenium, Dissolved	ug/L	1000	1070	107	80-120	
Silver, Dissolved	ug/L	500	508	102	80-120	
Sodium, Dissolved	ug/L	20000	19800	99	80-120	
Thallium, Dissolved	ug/L	1000	1020	102	80-120	
Vanadium, Dissolved	ug/L	1000	1020	102	80-120	
Zinc, Dissolved	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472204 2472205

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		10372996001 Result	Spike Conc.	Spike Conc.	MS Result						MSD Result
Aluminum, Dissolved	ug/L	17.0J	20000	20000	22000	21900	110	110	75-125	0	20
Antimony, Dissolved	ug/L	<2.5	1000	1000	1010	1030	101	103	75-125	2	20
Arsenic, Dissolved	ug/L	7.3J	1000	1000	1070	1060	106	105	75-125	1	20
Barium, Dissolved	ug/L	688	1000	1000	1680	1670	99	98	75-125	1	20
Beryllium, Dissolved	ug/L	0.11J	1000	1000	1070	1060	107	106	75-125	0	20
Cadmium, Dissolved	ug/L	0.54J	1000	1000	1040	1040	104	104	75-125	0	20
Calcium, Dissolved	ug/L	334000	20000	20000	359000	353000	124	96	75-125	2	20
Chromium, Dissolved	ug/L	<2.0	1000	1000	988	987	99	99	75-125	0	20
Cobalt, Dissolved	ug/L	10.9	1000	1000	979	976	97	97	75-125	0	20
Copper, Dissolved	ug/L	1.0J	1000	1000	1030	1030	103	102	75-125	0	20
Iron, Dissolved	ug/L	1060	20000	20000	20500	20500	97	97	75-125	0	20
Lead, Dissolved	ug/L	2.4J	1000	1000	991	991	99	99	75-125	0	20
Magnesium, Dissolved	ug/L	64600	20000	20000	85600	84900	105	102	75-125	1	20
Manganese, Dissolved	ug/L	7640	1000	1000	8600	8510	96	87	75-125	1	20
Nickel, Dissolved	ug/L	23.7	1000	1000	978	978	95	95	75-125	0	20
Potassium, Dissolved	ug/L	2220J	20000	20000	24400	24200	111	110	75-125	1	20
Selenium, Dissolved	ug/L	<4.5	1000	1000	1060	1070	106	107	75-125	1	20
Silver, Dissolved	ug/L	0.41J	500	500	517	516	103	103	75-125	0	20
Sodium, Dissolved	ug/L	110000	20000	20000	129000	128000	97	90	75-125	1	20
Thallium, Dissolved	ug/L	<3.8	1000	1000	947	949	94	95	75-125	0	20
Vanadium, Dissolved	ug/L	0.92J	1000	1000	1000	1000	100	100	75-125	0	20
Zinc, Dissolved	ug/L	2.5J	1000	1000	955	956	95	95	75-125	0	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451675 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372848004, 10372848005

METHOD BLANK: 2473229 Matrix: Water

Associated Lab Samples: 10372848004, 10372848005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/14/16 12:15	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/14/16 12:15	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/14/16 12:15	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/14/16 12:15	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/14/16 12:15	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/14/16 12:15	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/14/16 12:15	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/14/16 12:15	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/14/16 12:15	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/14/16 12:15	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/14/16 12:15	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/14/16 12:15	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/14/16 12:15	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/14/16 12:15	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/14/16 12:15	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/14/16 12:15	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/14/16 12:15	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/14/16 12:15	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/14/16 12:15	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/14/16 12:15	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/14/16 12:15	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/14/16 12:15	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/14/16 12:15	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/14/16 12:15	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/14/16 12:15	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/14/16 12:15	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/14/16 12:15	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/14/16 12:15	
Acetone	ug/L	<0.64	20.0	0.64	12/14/16 12:15	
Acrolein	ug/L	<2.1	10.0	2.1	12/14/16 12:15	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/14/16 12:15	
Benzene	ug/L	<0.042	0.50	0.042	12/14/16 12:15	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/14/16 12:15	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/14/16 12:15	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/14/16 12:15	
Bromoform	ug/L	<0.11	4.0	0.11	12/14/16 12:15	
Bromomethane	ug/L	<0.20	4.0	0.20	12/14/16 12:15	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/14/16 12:15	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/14/16 12:15	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

METHOD BLANK: 2473229

Matrix: Water

Associated Lab Samples: 10372848004, 10372848005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/14/16 12:15	
Chloroethane	ug/L	<0.12	1.0	0.12	12/14/16 12:15	
Chloroform	ug/L	<0.21	1.0	0.21	12/14/16 12:15	
Chloromethane	ug/L	<0.080	4.0	0.080	12/14/16 12:15	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/14/16 12:15	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/14/16 12:15	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/14/16 12:15	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/14/16 12:15	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/14/16 12:15	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/14/16 12:15	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/14/16 12:15	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/14/16 12:15	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/14/16 12:15	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/14/16 12:15	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/14/16 12:15	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/14/16 12:15	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/14/16 12:15	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/14/16 12:15	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/14/16 12:15	
Naphthalene	ug/L	<0.064	1.0	0.064	12/14/16 12:15	
o-Xylene	ug/L	<0.044	0.50	0.044	12/14/16 12:15	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/14/16 12:15	
Styrene	ug/L	<0.056	0.50	0.056	12/14/16 12:15	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/14/16 12:15	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/14/16 12:15	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/14/16 12:15	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/14/16 12:15	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/14/16 12:15	
Toluene	ug/L	<0.059	0.50	0.059	12/14/16 12:15	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/14/16 12:15	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/14/16 12:15	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/14/16 12:15	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/14/16 12:15	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/14/16 12:15	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/14/16 12:15	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/14/16 12:15	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/14/16 12:15	
1,2-Dichloroethane-d4 (S)	%	116	75-125		12/14/16 12:15	
4-Bromofluorobenzene (S)	%	98	75-125		12/14/16 12:15	
Toluene-d8 (S)	%	101	75-125		12/14/16 12:15	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2473230		2473231									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	24.9	26.4	124	132	75-125	6	30	L0	
1,1,1-Trichloroethane	ug/L	20	22.2	23.7	111	118	74-125	6	30		
1,1,2,2-Tetrachloroethane	ug/L	20	22.8	23.5	114	117	67-131	3	30		
1,1,2-Trichloroethane	ug/L	20	22.2	23.2	111	116	75-125	4	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.3	23.1	107	116	75-125	8	30		
1,1-Dichloroethane	ug/L	20	20.3	21.2	102	106	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.2	21.9	101	110	74-125	8	30		
1,1-Dichloropropene	ug/L	20	19.2	20.6	96	103	74-125	7	30		
1,2,3-Trichlorobenzene	ug/L	20	21.1	22.7	105	114	63-131	8	30		
1,2,3-Trichloropropane	ug/L	20	21.3	22.8	106	114	73-125	7	30		
1,2,4-Trichlorobenzene	ug/L	20	20.3	22.5	101	113	66-126	10	30		
1,2,4-Trimethylbenzene	ug/L	20	20.9	21.8	104	109	74-129	4	30		
1,2-Dibromo-3-chloropropane	ug/L	50	59.4	59.1	119	118	54-129	1	30		
1,2-Dibromoethane (EDB)	ug/L	20	22.6	22.5	113	113	75-125	0	30		
1,2-Dichlorobenzene	ug/L	20	20.1	21.8	100	109	75-125	8	30		
1,2-Dichloroethane	ug/L	20	21.4	22.1	107	110	75-125	3	30		
1,2-Dichloroethene (Total)	ug/L	40	40.3	42.6	101	107	75-125	6	30		
1,2-Dichloropropane	ug/L	20	19.6	20.6	98	103	75-125	5	30		
1,3,5-Trimethylbenzene	ug/L	20	20.9	22.6	105	113	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	20.7	22.5	103	112	75-125	8	30		
1,3-Dichloropropane	ug/L	20	20.3	21.5	102	108	69-125	6	30		
1,4-Dichlorobenzene	ug/L	20	20.1	21.4	100	107	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	386	502	96	125	70-130	26	30		
2,2,4-Trimethylpentane	ug/L	20	19.2	20.0	96	100	67-138	4	30		
2,2-Dichloropropane	ug/L	20	22.7	24.3	113	122	69-125	7	30		
2-Butanone (MEK)	ug/L	100	96.0	91.9	96	92	48-145	4	30		
2-Chlorotoluene	ug/L	20	19.1	21.3	96	107	74-125	11	30		
2-Hexanone	ug/L	100	104	96.7	104	97	63-135	8	30		
4-Chlorotoluene	ug/L	20	20.8	22.2	104	111	73-125	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	96.3	103	96	53-138	7	30		
Acetone	ug/L	100	77.6	92.0	78	92	70-142	17	30		
Acrolein	ug/L	200	272	268	136	134	44-150	1	30		
Acrylonitrile	ug/L	200	197	193	98	97	68-125	2	30		
Benzene	ug/L	20	18.5	19.5	92	97	65-125	5	30		
Bromobenzene	ug/L	20	21.0	21.9	105	109	75-125	4	30		
Bromochloromethane	ug/L	20	22.6	22.6	113	113	75-125	0	30		
Bromodichloromethane	ug/L	20	23.1	25.0	116	125	73-125	8	30		
Bromoform	ug/L	20	24.8	25.2	124	126	69-125	2	30	L0	
Bromomethane	ug/L	20	17.9	23.3	90	116	40-136	26	30		
Carbon disulfide	ug/L	20	19.9	21.3	99	107	36-150	7	30		
Carbon tetrachloride	ug/L	20	25.7	27.2	128	136	70-125	6	30	L0	
Chlorobenzene	ug/L	20	20.4	21.2	102	106	75-125	4	30		
Chloroethane	ug/L	20	20.2	22.0	101	110	67-141	8	30		
Chloroform	ug/L	20	20.4	21.9	102	109	75-125	7	30		
Chloromethane	ug/L	20	16.3	17.4	82	87	50-150	6	30		
cis-1,2-Dichloroethene	ug/L	20	19.8	21.2	99	106	75-125	7	30		
cis-1,3-Dichloropropene	ug/L	20	20.9	21.9	104	109	75-125	5	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD:		2473230		2473231							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	25.3	26.3	127	132	75-125	4	30	L0	
Dibromomethane	ug/L	20	22.0	22.1	110	110	75-129	0	30		
Dichlorodifluoromethane	ug/L	20	20.1	21.3	100	106	59-135	6	30		
Dichlorofluoromethane	ug/L	20	20.8	22.4	104	112	74-130	8	30		
Diisopropyl ether	ug/L	20	17.7	18.8	89	94	71-125	6	30		
Ethyl-tert-butyl ether	ug/L	20	18.8	19.6	94	98	70-130	4	30		
Ethylbenzene	ug/L	20	20.8	21.6	104	108	75-125	4	30		
Hexachloro-1,3-butadiene	ug/L	20	24.9	28.2	125	141	72-126	13	30	L0	
Isopropylbenzene (Cumene)	ug/L	20	20.9	21.5	104	107	71-136	3	30		
m&p-Xylene	ug/L	40	41.7	43.3	104	108	75-125	4	30		
Methyl-tert-butyl ether	ug/L	20	19.9	21.1	100	106	73-127	6	30		
Methylene Chloride	ug/L	20	20.9	22.3	104	111	68-128	6	30		
n-Butylbenzene	ug/L	20	21.2	22.5	106	112	70-126	6	30		
n-Propylbenzene	ug/L	20	20.2	21.7	101	109	67-131	7	30		
Naphthalene	ug/L	20	19.6	20.1	98	101	52-134	3	30		
o-Xylene	ug/L	20	20.4	20.9	102	105	75-125	3	30		
p-Isopropyltoluene	ug/L	20	21.2	22.5	106	112	74-125	6	30		
sec-Butylbenzene	ug/L	20	20.5	21.9	103	109	69-134	6	30		
Styrene	ug/L	20	20.7	21.8	103	109	75-125	6	30		
tert-Amylmethyl ether	ug/L	20	19.0	19.1	95	96	70-130	0	30		
tert-Butyl Alcohol	ug/L	200	195	242	98	121	66-128	21	30		
tert-Butylbenzene	ug/L	20	20.2	21.9	101	109	71-128	8	30		
Tetrachloroethene	ug/L	20	21.0	21.7	105	109	74-125	4	30		
Tetrahydrofuran	ug/L	200	154	171	77	86	64-142	11	30		
Toluene	ug/L	20	19.2	19.9	96	100	75-125	3	30		
trans-1,2-Dichloroethene	ug/L	20	20.5	21.5	102	107	73-125	5	30		
trans-1,3-Dichloropropene	ug/L	20	22.5	24.0	112	120	75-125	6	30		
trans-1,4-Dichloro-2-butene	ug/L	50	50.4	52.6	101	105	54-133	4	30		
Trichloroethene	ug/L	20	20.4	21.3	102	107	75-125	4	30		
Trichlorofluoromethane	ug/L	20	23.3	24.6	116	123	75-126	6	30		
Vinyl acetate	ug/L	20	23.5	24.4	118	122	67-126	4	30		
Vinyl chloride	ug/L	20	18.4	20.0	92	100	72-125	8	30		
Xylene (Total)	ug/L	60	62.1	64.2	103	107	75-125	3	30		
1,2-Dichloroethane-d4 (S)	%				105	105	75-125				
4-Bromofluorobenzene (S)	%				97	101	75-125				
Toluene-d8 (S)	%				102	102	75-125				

MATRIX SPIKE SAMPLE:		2473232		10372881026							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	ND	20	25.5	128	75-127	M1				
1,1,1-Trichloroethane	ug/L	ND	20	23.2	116	66-142					
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.8	114	70-131					
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	26.1	131	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2473232		10372881026	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	20.4	102	58-147	
1,1-Dichloroethene	ug/L	ND	20	23.0	115	49-150	
1,1-Dichloropropene	ug/L	ND	20	20.2	101	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.5	107	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	20.7	104	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.2	106	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	21.0	105	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	59.9	120	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.9	109	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	20.0	100	75-125	
1,2-Dichloroethane	ug/L	ND	20	20.8	104	63-133	
1,2-Dichloroethene (Total)	ug/L	76.3	40	121	112	55-146	
1,2-Dichloropropane	ug/L	ND	20	19.2	96	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	21.8	109	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	21.1	105	75-125	
1,3-Dichloropropane	ug/L	ND	20	20.2	101	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	20.2	101	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	407	102	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	24.9	124	30-150	
2,2-Dichloropropane	ug/L	ND	20	23.5	118	39-148	
2-Butanone (MEK)	ug/L	ND	100	88.0	88	50-144	
2-Chlorotoluene	ug/L	ND	20	19.8	99	71-135	
2-Hexanone	ug/L	ND	100	101	101	43-150	
4-Chlorotoluene	ug/L	ND	20	21.5	108	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	99.9	100	60-147	
Acetone	ug/L	ND	100	81.0	81	59-150	
Acrolein	ug/L	ND	200	295	148	30-150	
Acrylonitrile	ug/L	ND	200	189	94	41-148	
Benzene	ug/L	ND	20	18.7	94	61-138	
Bromobenzene	ug/L	ND	20	20.7	104	74-130	
Bromochloromethane	ug/L	ND	20	21.7	108	65-137	
Bromodichloromethane	ug/L	ND	20	23.0	115	66-136	
Bromoform	ug/L	ND	20	24.6	123	71-125	
Bromomethane	ug/L	ND	20	21.0	105	30-150	
Carbon disulfide	ug/L	ND	20	21.4	107	30-150	
Carbon tetrachloride	ug/L	ND	20	27.9	139	68-140	
Chlorobenzene	ug/L	ND	20	20.4	102	75-132	
Chloroethane	ug/L	ND	20	20.1	101	55-150	
Chloroform	ug/L	ND	20	20.8	104	64-139	
Chloromethane	ug/L	ND	20	16.3	82	73-150	
cis-1,2-Dichloroethene	ug/L	76.3	20	99.7	117	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	19.5	98	70-125	
Dibromochloromethane	ug/L	ND	20	25.2	126	74-125 MO	
Dibromomethane	ug/L	ND	20	20.4	102	66-138	
Dichlorodifluoromethane	ug/L	ND	20	22.9	114	53-150	
Dichlorofluoromethane	ug/L	ND	20	20.2	101	58-150	
Diisopropyl ether	ug/L	ND	20	18.0	90	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2473232

Parameter	Units	10372881026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	18.9	95	30-140	
Ethylbenzene	ug/L	ND	20	20.9	105	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	29.6	148	63-139	M1
Isopropylbenzene (Cumene)	ug/L	ND	20	21.1	105	65-146	
m&p-Xylene	ug/L	ND	40	41.7	104	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	20.2	101	63-134	
Methylene Chloride	ug/L	ND	20	20.3	91	49-143	
n-Butylbenzene	ug/L	ND	20	22.0	110	67-134	
n-Propylbenzene	ug/L	ND	20	20.9	105	62-142	
Naphthalene	ug/L	ND	20	19.7	99	41-150	
o-Xylene	ug/L	ND	20	20.2	101	66-138	
p-Isopropyltoluene	ug/L	ND	20	22.2	111	64-137	
sec-Butylbenzene	ug/L	ND	20	22.2	111	65-142	
Styrene	ug/L	ND	20	20.7	104	61-142	
tert-Amylmethyl ether	ug/L	ND	20	18.4	92	65-125	
tert-Butyl Alcohol	ug/L	ND	200	233	117	59-138	
tert-Butylbenzene	ug/L	ND	20	21.2	106	69-135	
Tetrachloroethene	ug/L	542	20	631	446	62-142	E,M1
Tetrahydrofuran	ug/L	ND	200	162	81	55-150	
Toluene	ug/L	ND	20	19.1	96	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	21.3	107	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	23.0	115	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	51.8	104	31-150	
Trichloroethene	ug/L	41.1	20	66.8	129	64-142	
Trichlorofluoromethane	ug/L	ND	20	24.6	123	63-150	
Vinyl acetate	ug/L	ND	20	23.5	118	30-150	
Vinyl chloride	ug/L	ND	20	19.3	96	58-150	
Xylene (Total)	ug/L	ND	60	61.9	103	70-140	
1,2-Dichloroethane-d4 (S)	%				105	75-125	
4-Bromofluorobenzene (S)	%				101	75-125	
Toluene-d8 (S)	%				99	75-125	

SAMPLE DUPLICATE: 2476595

Parameter	Units	10372881027 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2476595

Parameter	Units	10372881027 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	5.8	5.8	0	30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	<0.64		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	4.1	3.9	5	30	
Chlorobenzene	ug/L	ND	0.22J		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	2.4	2.4	0	30	
Chloromethane	ug/L	ND	<0.080		30	
cis-1,2-Dichloroethene	ug/L	5.7	5.6	1	30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2476595

Parameter	Units	10372881027 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	<0.097		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	562	677	19	30	E
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	0.16J		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	
Trichloroethene	ug/L	21.6	20.7	4	30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	118	117	1		
4-Bromofluorobenzene (S)	%	101	101	0		
Toluene-d8 (S)	%	96	99	3		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 451946 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372848002

METHOD BLANK: 2474527 Matrix: Water
Associated Lab Samples: 10372848002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/15/16 14:47	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/15/16 14:47	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/15/16 14:47	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/15/16 14:47	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/15/16 14:47	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/15/16 14:47	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/15/16 14:47	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/15/16 14:47	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/15/16 14:47	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/15/16 14:47	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/15/16 14:47	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/15/16 14:47	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/15/16 14:47	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/15/16 14:47	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/15/16 14:47	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/15/16 14:47	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/15/16 14:47	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/15/16 14:47	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/15/16 14:47	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/15/16 14:47	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/15/16 14:47	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/15/16 14:47	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/15/16 14:47	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/15/16 14:47	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/15/16 14:47	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/15/16 14:47	
Acetone	ug/L	<0.64	20.0	0.64	12/15/16 14:47	
Acrolein	ug/L	<2.1	10.0	2.1	12/15/16 14:47	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/15/16 14:47	
Benzene	ug/L	<0.042	0.50	0.042	12/15/16 14:47	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/15/16 14:47	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/15/16 14:47	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/15/16 14:47	
Bromoform	ug/L	<0.11	4.0	0.11	12/15/16 14:47	
Bromomethane	ug/L	<0.20	4.0	0.20	12/15/16 14:47	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/15/16 14:47	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/15/16 14:47	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

METHOD BLANK: 2474527 Matrix: Water
Associated Lab Samples: 10372848002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/15/16 14:47	
Chloroethane	ug/L	<0.12	1.0	0.12	12/15/16 14:47	
Chloroform	ug/L	<0.21	1.0	0.21	12/15/16 14:47	
Chloromethane	ug/L	<0.080	4.0	0.080	12/15/16 14:47	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/15/16 14:47	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/15/16 14:47	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/15/16 14:47	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/15/16 14:47	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/15/16 14:47	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/15/16 14:47	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/15/16 14:47	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/15/16 14:47	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/15/16 14:47	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/15/16 14:47	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/15/16 14:47	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/15/16 14:47	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/15/16 14:47	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/15/16 14:47	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/15/16 14:47	
Naphthalene	ug/L	0.71J	4.0	0.064	12/15/16 14:47	
o-Xylene	ug/L	<0.044	0.50	0.044	12/15/16 14:47	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/15/16 14:47	
Styrene	ug/L	<0.056	0.50	0.056	12/15/16 14:47	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/15/16 14:47	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/15/16 14:47	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/15/16 14:47	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/15/16 14:47	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/15/16 14:47	
Toluene	ug/L	<0.059	0.50	0.059	12/15/16 14:47	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/15/16 14:47	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/15/16 14:47	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/15/16 14:47	CL
Trichloroethene	ug/L	<0.044	0.40	0.044	12/15/16 14:47	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/15/16 14:47	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/15/16 14:47	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/15/16 14:47	
1,2-Dichloroethane-d4 (S)	%	95	75-125		12/15/16 14:47	
4-Bromofluorobenzene (S)	%	100	75-125		12/15/16 14:47	
Toluene-d8 (S)	%	101	75-125		12/15/16 14:47	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2474528		2474529									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.7	20.1	103	101	75-125	3	30		
1,1,1-Trichloroethane	ug/L	20	19.7	18.5	98	93	74-125	6	30		
1,1,2,2-Tetrachloroethane	ug/L	20	21.4	21.4	107	107	67-131	0	30		
1,1,2-Trichloroethane	ug/L	20	19.8	19.3	99	97	75-125	2	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	18.2	97	91	75-125	7	30		
1,1-Dichloroethane	ug/L	20	18.8	17.6	94	88	74-125	7	30		
1,1-Dichloroethene	ug/L	20	18.5	17.7	92	89	74-125	4	30		
1,1-Dichloropropene	ug/L	20	19.1	17.2	96	86	74-125	11	30		
1,2,3-Trichlorobenzene	ug/L	20	20.7	20.6	103	103	63-131	0	30		
1,2,3-Trichloropropane	ug/L	20	21.8	21.1	109	106	73-125	3	30		
1,2,4-Trichlorobenzene	ug/L	20	20.8	20.2	104	101	66-126	3	30		
1,2,4-Trimethylbenzene	ug/L	20	22.3	20.9	112	105	74-129	7	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.6	49.7	91	99	54-129	9	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.3	20.6	107	103	75-125	4	30		
1,2-Dichlorobenzene	ug/L	20	20.9	19.3	105	96	75-125	8	30		
1,2-Dichloroethane	ug/L	20	16.8	16.4	84	82	75-125	3	30		
1,2-Dichloroethene (Total)	ug/L	40	38.2	35.1	96	88	75-125	8	30		
1,2-Dichloropropane	ug/L	20	19.0	17.9	95	90	75-125	6	30		
1,3,5-Trimethylbenzene	ug/L	20	22.4	20.8	112	104	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	20.7	19.3	103	97	75-125	7	30		
1,3-Dichloropropane	ug/L	20	19.5	18.9	98	95	69-125	3	30		
1,4-Dichlorobenzene	ug/L	20	20.1	18.9	101	94	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	378	379	94	95	70-130	0	30		
2,2,4-Trimethylpentane	ug/L	20	20.4	18.3	102	91	67-138	11	30		
2,2-Dichloropropane	ug/L	20	21.0	19.7	105	98	69-125	7	30		
2-Butanone (MEK)	ug/L	100	84.3	97.9	84	98	48-145	15	30		
2-Chlorotoluene	ug/L	20	20.7	19.0	104	95	74-125	9	30		
2-Hexanone	ug/L	100	101	113	101	113	63-135	11	30		
4-Chlorotoluene	ug/L	20	21.3	19.6	106	98	73-125	8	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.2	109	98	109	53-138	10	30		
Acetone	ug/L	100	92.1	89.4	92	89	70-142	3	30		
Acrolein	ug/L	200	281	321	140	160	44-150	13	30	CH,L0	
Acrylonitrile	ug/L	200	188	204	94	102	68-125	8	30		
Benzene	ug/L	20	19.4	17.9	97	89	65-125	8	30		
Bromobenzene	ug/L	20	20.8	19.6	104	98	75-125	6	30		
Bromochloromethane	ug/L	20	19.6	18.9	98	94	75-125	4	30		
Bromodichloromethane	ug/L	20	19.2	18.5	96	92	73-125	4	30		
Bromoform	ug/L	20	17.3	16.8	86	84	69-125	3	30		
Bromomethane	ug/L	20	13.8	15.8	69	79	40-136	13	30		
Carbon disulfide	ug/L	20	18.5	17.2	92	86	36-150	7	30		
Carbon tetrachloride	ug/L	20	19.6	19.0	98	95	70-125	3	30		
Chlorobenzene	ug/L	20	19.7	18.6	98	93	75-125	6	30		
Chloroethane	ug/L	20	18.2	17.7	91	89	67-141	3	30		
Chloroform	ug/L	20	17.9	16.7	89	84	75-125	7	30		
Chloromethane	ug/L	20	18.5	18.0	92	90	50-150	3	30		
cis-1,2-Dichloroethene	ug/L	20	18.8	17.6	94	88	75-125	7	30		
cis-1,3-Dichloropropene	ug/L	20	20.2	19.4	101	97	75-125	4	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD:		2474528		2474529							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	19.6	18.7	98	93	75-125	5	30		
Dibromomethane	ug/L	20	19.7	19.8	98	99	75-129	1	30		
Dichlorodifluoromethane	ug/L	20	17.2	17.0	86	85	59-135	1	30		
Dichlorofluoromethane	ug/L	20	18.4	17.4	92	87	74-130	6	30		
Diisopropyl ether	ug/L	20	18.0	17.3	90	86	71-125	4	30		
Ethyl-tert-butyl ether	ug/L	20	18.8	17.9	94	90	70-130	5	30		
Ethylbenzene	ug/L	20	19.3	18.1	97	90	75-125	7	30		
Hexachloro-1,3-butadiene	ug/L	20	20.8	21.8	104	109	72-126	5	30		
Isopropylbenzene (Cumene)	ug/L	20	21.7	20.2	109	101	71-136	7	30		
m&p-Xylene	ug/L	40	41.9	39.2	105	98	75-125	7	30		
Methyl-tert-butyl ether	ug/L	20	18.3	18.1	91	91	73-127	1	30		
Methylene Chloride	ug/L	20	18.7	17.3	93	86	68-128	8	30		
n-Butylbenzene	ug/L	20	22.1	21.0	110	105	70-126	5	30		
n-Propylbenzene	ug/L	20	21.1	19.8	105	99	67-131	6	30		
Naphthalene	ug/L	20	17.7	18.9	88	95	52-134	7	30		
o-Xylene	ug/L	20	21.5	20.4	108	102	75-125	6	30		
p-Isopropyltoluene	ug/L	20	22.9	21.4	114	107	74-125	7	30		
sec-Butylbenzene	ug/L	20	22.6	20.7	113	103	69-134	9	30		
Styrene	ug/L	20	21.4	20.0	107	100	75-125	7	30		
tert-Amylmethyl ether	ug/L	20	18.7	18.0	94	90	70-130	4	30		
tert-Butyl Alcohol	ug/L	200	200	210	100	105	66-128	5	30		
tert-Butylbenzene	ug/L	20	21.1	19.2	105	96	71-128	9	30		
Tetrachloroethene	ug/L	20	21.7	19.4	108	97	74-125	11	30		
Tetrahydrofuran	ug/L	200	198	188	99	94	64-142	5	30		
Toluene	ug/L	20	20.1	18.1	100	90	75-125	10	30		
trans-1,2-Dichloroethene	ug/L	20	19.4	17.6	97	88	73-125	10	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	20.0	102	100	75-125	2	30		
trans-1,4-Dichloro-2-butene	ug/L	50	29.8	24.8	60	50	54-133	18	30	CL,L0	
Trichloroethene	ug/L	20	21.1	19.3	105	97	75-125	9	30		
Trichlorofluoromethane	ug/L	20	18.7	18.0	93	90	75-126	4	30		
Vinyl acetate	ug/L	20	20.7	20.7	103	104	67-126	0	30		
Vinyl chloride	ug/L	20	17.5	17.1	88	85	72-125	3	30		
Xylene (Total)	ug/L	60	63.4	59.5	106	99	75-125	6	30		
1,2-Dichloroethane-d4 (S)	%				95	95	75-125				
4-Bromofluorobenzene (S)	%				100	98	75-125				
Toluene-d8 (S)	%				102	101	75-125				

MATRIX SPIKE SAMPLE:		2475469		1280324004							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.9	119	75-127					
1,1,1-Trichloroethane	ug/L	ND	20	23.2	116	66-142					
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.3	111	70-131					
1,1,2-Trichloroethane	ug/L	ND	20	21.2	106	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	25.7	128	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2475469		1280324004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	21.2	106	58-147	
1,1-Dichloroethene	ug/L	ND	20	23.4	117	49-150	
1,1-Dichloropropene	ug/L	ND	20	23.2	116	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	22.4	112	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	21.8	109	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	23.1	116	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	24.7	124	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	47.9	96	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	22.8	114	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	22.3	112	75-125	
1,2-Dichloroethane	ug/L	ND	20	18.9	95	63-133	
1,2-Dichloroethene (Total)	ug/L	ND	40	43.3	108	55-146	
1,2-Dichloropropane	ug/L	ND	20	21.5	108	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	24.8	124	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	23.3	117	75-125	
1,3-Dichloropropane	ug/L	ND	20	22.3	111	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	22.0	110	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	428	107	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	ND	20	24.5	122	39-148	
2-Butanone (MEK)	ug/L	ND	100	92.1	92	50-144	
2-Chlorotoluene	ug/L	ND	20	22.5	113	71-135	
2-Hexanone	ug/L	ND	100	106	106	43-150	
4-Chlorotoluene	ug/L	ND	20	23.1	116	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	103	103	60-147	
Acetone	ug/L	27.0	100	109	82	59-150	
Acrolein	ug/L	ND	200	363	182	30-150	CH,M1
Acrylonitrile	ug/L	ND	200	200	100	41-148	
Benzene	ug/L	ND	20	22.1	111	61-138	
Bromobenzene	ug/L	ND	20	22.5	113	74-130	
Bromochloromethane	ug/L	ND	20	21.8	109	65-137	
Bromodichloromethane	ug/L	ND	20	21.1	106	66-136	
Bromoform	ug/L	ND	20	17.0	85	71-125	
Bromomethane	ug/L	ND	20	15.2	76	30-150	
Carbon disulfide	ug/L	ND	20	21.2	106	30-150	
Carbon tetrachloride	ug/L	ND	20	24.8	124	68-140	
Chlorobenzene	ug/L	ND	20	22.0	110	75-132	
Chloroethane	ug/L	ND	20	19.8	99	55-150	
Chloroform	ug/L	ND	20	20.1	101	64-139	
Chloromethane	ug/L	ND	20	19.7	96	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.9	105	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	22.2	111	70-125	
Dibromochloromethane	ug/L	ND	20	21.1	105	74-125	
Dibromomethane	ug/L	ND	20	22.3	111	66-138	
Dichlorodifluoromethane	ug/L	ND	20	20.7	103	53-150	
Dichlorofluoromethane	ug/L	ND	20	18.1	91	58-150	
Diisopropyl ether	ug/L	ND	20	20.6	103	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2475469

Parameter	Units	1280324004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	20.9	105	30-140	
Ethylbenzene	ug/L	ND	20	21.7	108	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	27.6	138	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	24.6	123	65-146	
m&p-Xylene	ug/L	ND	40	47.0	117	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	19.7	98	63-134	
Methylene Chloride	ug/L	ND	20	20.1	101	49-143	
n-Butylbenzene	ug/L	ND	20	25.4	127	67-134	
n-Propylbenzene	ug/L	ND	20	24.0	120	62-142	
Naphthalene	ug/L	ND	20	19.4	97	41-150	
o-Xylene	ug/L	ND	20	24.0	120	66-138	
p-Isopropyltoluene	ug/L	ND	20	26.5	133	64-137	
sec-Butylbenzene	ug/L	ND	20	25.6	128	65-142	
Styrene	ug/L	ND	20	24.4	122	61-142	
tert-Amylmethyl ether	ug/L	ND	20	20.3	102	65-125	
tert-Butyl Alcohol	ug/L	ND	200	223	111	59-138	
tert-Butylbenzene	ug/L	ND	20	23.5	118	69-135	
Tetrachloroethene	ug/L	ND	20	25.2	126	62-142	
Tetrahydrofuran	ug/L	ND	200	214	107	55-150	
Toluene	ug/L	ND	20	22.5	112	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	22.4	112	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	22.5	113	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	23.5	47	31-150	CL
Trichloroethene	ug/L	ND	20	24.3	121	64-142	
Trichlorofluoromethane	ug/L	ND	20	21.3	107	63-150	
Vinyl acetate	ug/L	ND	20	22.6	113	30-150	
Vinyl chloride	ug/L	ND	20	17.4	87	58-150	
Xylene (Total)	ug/L	ND	60	71.0	118	70-140	
1,2-Dichloroethane-d4 (S)	%				93	75-125	
4-Bromofluorobenzene (S)	%				96	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	ND	<0.16		30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	16.9J		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	ND	<0.079		30	
Chlorobenzene	ug/L	ND	<0.066		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	ND	<0.21		30	
Chloromethane	ug/L	ND	0.29J		30	
cis-1,2-Dichloroethene	ug/L	ND	<0.12		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	<0.097		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	ND	<0.13		30	
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	CL
Trichloroethene	ug/L	ND	<0.044		30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	96	96	0		
4-Bromofluorobenzene (S)	%	102	100	2		
Toluene-d8 (S)	%	101	99	3		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 452383 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372848001, 10372848003

METHOD BLANK: 2476549 Matrix: Water
Associated Lab Samples: 10372848001, 10372848003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/19/16 13:31	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/19/16 13:31	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/19/16 13:31	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/19/16 13:31	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/19/16 13:31	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/19/16 13:31	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/19/16 13:31	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/19/16 13:31	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/19/16 13:31	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/19/16 13:31	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/19/16 13:31	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/19/16 13:31	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/19/16 13:31	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/19/16 13:31	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/19/16 13:31	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/19/16 13:31	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/19/16 13:31	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/19/16 13:31	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/19/16 13:31	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/19/16 13:31	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/19/16 13:31	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/19/16 13:31	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/19/16 13:31	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/19/16 13:31	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/19/16 13:31	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/19/16 13:31	
Acetone	ug/L	<0.64	20.0	0.64	12/19/16 13:31	
Acrolein	ug/L	<2.1	10.0	2.1	12/19/16 13:31	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/19/16 13:31	
Benzene	ug/L	<0.042	0.50	0.042	12/19/16 13:31	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/19/16 13:31	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/19/16 13:31	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/19/16 13:31	
Bromoform	ug/L	<0.11	4.0	0.11	12/19/16 13:31	
Bromomethane	ug/L	<0.20	4.0	0.20	12/19/16 13:31	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/19/16 13:31	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/19/16 13:31	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

METHOD BLANK: 2476549

Matrix: Water

Associated Lab Samples: 10372848001, 10372848003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/19/16 13:31	
Chloroethane	ug/L	<0.12	1.0	0.12	12/19/16 13:31	
Chloroform	ug/L	<0.21	1.0	0.21	12/19/16 13:31	
Chloromethane	ug/L	<0.080	4.0	0.080	12/19/16 13:31	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/19/16 13:31	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/19/16 13:31	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	12/19/16 13:31	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/19/16 13:31	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/19/16 13:31	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/19/16 13:31	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/19/16 13:31	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/19/16 13:31	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/19/16 13:31	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/19/16 13:31	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/19/16 13:31	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/19/16 13:31	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/19/16 13:31	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/19/16 13:31	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/19/16 13:31	
Naphthalene	ug/L	<0.064	4.0	0.064	12/19/16 13:31	
o-Xylene	ug/L	<0.044	0.50	0.044	12/19/16 13:31	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/19/16 13:31	
Styrene	ug/L	<0.056	0.50	0.056	12/19/16 13:31	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/19/16 13:31	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/19/16 13:31	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/19/16 13:31	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/19/16 13:31	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/19/16 13:31	
Toluene	ug/L	<0.059	0.50	0.059	12/19/16 13:31	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/19/16 13:31	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/19/16 13:31	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/19/16 13:31	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/19/16 13:31	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/19/16 13:31	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/19/16 13:31	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/19/16 13:31	
1,2-Dichloroethane-d4 (S)	%	103	75-125		12/19/16 13:31	
4-Bromofluorobenzene (S)	%	101	75-125		12/19/16 13:31	
Toluene-d8 (S)	%	99	75-125		12/19/16 13:31	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2476550		2476551								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	19.8	98	99	75-125	1	30	
1,1,1-Trichloroethane	ug/L	20	18.7	18.5	93	93	74-125	1	30	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	19.7	95	98	67-131	4	30	
1,1,2-Trichloroethane	ug/L	20	18.9	19.3	95	97	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.9	17.4	90	87	75-125	3	30	
1,1-Dichloroethane	ug/L	20	19.0	18.5	95	93	74-125	3	30	
1,1-Dichloroethene	ug/L	20	18.1	17.9	91	90	74-125	1	30	
1,1-Dichloropropene	ug/L	20	18.4	18.4	92	92	74-125	0	30	
1,2,3-Trichlorobenzene	ug/L	20	19.9	20.3	100	101	63-131	2	30	
1,2,3-Trichloropropane	ug/L	20	19.1	19.6	96	98	73-125	2	30	
1,2,4-Trichlorobenzene	ug/L	20	20.2	20.4	101	102	66-126	1	30	
1,2,4-Trimethylbenzene	ug/L	20	20.3	20.3	102	101	74-129	0	30	
1,2-Dibromo-3-chloropropane	ug/L	50	46.5	48.2	93	96	54-129	4	30	
1,2-Dibromoethane (EDB)	ug/L	20	19.5	20.0	98	100	75-125	2	30	
1,2-Dichlorobenzene	ug/L	20	19.8	19.5	99	97	75-125	2	30	
1,2-Dichloroethane	ug/L	20	18.7	18.1	94	90	75-125	4	30	
1,2-Dichloroethene (Total)	ug/L	40	35.3	35.2	88	88	75-125	0	30	
1,2-Dichloropropane	ug/L	20	19.0	18.8	95	94	75-125	1	30	
1,3,5-Trimethylbenzene	ug/L	20	19.7	19.4	98	97	73-127	1	30	
1,3-Dichlorobenzene	ug/L	20	19.4	19.5	97	97	75-125	0	30	
1,3-Dichloropropane	ug/L	20	18.8	19.1	94	96	69-125	1	30	
1,4-Dichlorobenzene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	346	439	86	110	70-130	24	30	
2,2,4-Trimethylpentane	ug/L	20	17.4	16.6	87	83	67-138	5	30	
2,2-Dichloropropane	ug/L	20	19.2	18.8	96	94	69-125	2	30	
2-Butanone (MEK)	ug/L	100	89.3	89.9	89	90	48-145	1	30	
2-Chlorotoluene	ug/L	20	21.2	20.9	106	105	74-125	2	30	
2-Hexanone	ug/L	100	94.2	94.4	94	94	63-135	0	30	
4-Chlorotoluene	ug/L	20	19.7	19.5	98	97	73-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.2	96.2	93	96	53-138	3	30	
Acetone	ug/L	100	91.2	104	91	104	70-142	13	30	
Acrolein	ug/L	200	186	192	93	96	44-150	3	30	
Acrylonitrile	ug/L	200	187	189	93	94	68-125	1	30	
Benzene	ug/L	20	18.0	17.9	90	90	65-125	0	30	
Bromobenzene	ug/L	20	18.8	19.1	94	95	75-125	2	30	
Bromochloromethane	ug/L	20	19.4	18.6	97	93	75-125	4	30	
Bromodichloromethane	ug/L	20	19.1	18.8	96	94	73-125	2	30	
Bromoform	ug/L	20	19.4	20.5	97	102	69-125	5	30	
Bromomethane	ug/L	20	14.3	16.2	72	81	40-136	13	30	
Carbon disulfide	ug/L	20	18.2	18.0	91	90	36-150	1	30	
Carbon tetrachloride	ug/L	20	19.8	19.3	99	96	70-125	3	30	
Chlorobenzene	ug/L	20	18.8	18.8	94	94	75-125	0	30	
Chloroethane	ug/L	20	19.6	19.2	98	96	67-141	2	30	
Chloroform	ug/L	20	17.9	18.0	89	90	75-125	1	30	
Chloromethane	ug/L	20	17.2	16.6	86	83	50-150	4	30	
cis-1,2-Dichloroethene	ug/L	20	17.9	17.7	89	89	75-125	1	30	
cis-1,3-Dichloropropene	ug/L	20	19.6	19.5	98	98	75-125	1	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD:		2476550		2476551							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	19.2	19.7	96	99	75-125	3	30		
Dibromomethane	ug/L	20	19.4	18.9	97	95	75-129	3	30		
Dichlorodifluoromethane	ug/L	20	17.9	17.8	89	89	59-135	1	30		
Dichlorofluoromethane	ug/L	20	18.1	18.0	90	90	74-130	0	30		
Diisopropyl ether	ug/L	20	18.2	17.9	91	90	71-125	1	30		
Ethyl-tert-butyl ether	ug/L	20	19.5	19.3	97	97	70-130	1	30		
Ethylbenzene	ug/L	20	18.8	18.5	94	93	75-125	1	30		
Hexachloro-1,3-butadiene	ug/L	20	21.3	21.3	106	107	72-126	0	30		
Isopropylbenzene (Cumene)	ug/L	20	19.3	19.2	96	96	71-136	0	30		
m&p-Xylene	ug/L	40	39.2	38.9	98	97	75-125	1	30		
Methyl-tert-butyl ether	ug/L	20	18.8	18.7	94	93	73-127	1	30		
Methylene Chloride	ug/L	20	18.7	18.4	93	92	68-128	1	30		
n-Butylbenzene	ug/L	20	20.7	20.1	103	101	70-126	3	30		
n-Propylbenzene	ug/L	20	19.6	19.2	98	96	67-131	2	30		
Naphthalene	ug/L	20	19.3	19.4	97	97	52-134	0	30		
o-Xylene	ug/L	20	19.4	19.3	97	96	75-125	1	30		
p-Isopropyltoluene	ug/L	20	20.1	20.1	101	100	74-125	0	30		
sec-Butylbenzene	ug/L	20	19.9	19.8	99	99	69-134	1	30		
Styrene	ug/L	20	19.5	19.7	97	99	75-125	1	30		
tert-Amylmethyl ether	ug/L	20	19.1	18.8	95	94	70-130	1	30		
tert-Butyl Alcohol	ug/L	200	181	217	91	109	66-128	18	30		
tert-Butylbenzene	ug/L	20	19.4	19.4	97	97	71-128	0	30		
Tetrachloroethene	ug/L	20	19.0	19.9	95	99	74-125	4	30		
Tetrahydrofuran	ug/L	200	183	203	91	102	64-142	11	30		
Toluene	ug/L	20	17.6	18.0	88	90	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	17.5	17.5	87	88	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	19.5	19.3	98	96	75-125	1	30		
trans-1,4-Dichloro-2-butene	ug/L	50	50.1	50.0	100	100	54-133	0	30		
Trichloroethene	ug/L	20	19.5	19.0	98	95	75-125	3	30		
Trichlorofluoromethane	ug/L	20	19.4	19.5	97	98	75-126	0	30		
Vinyl acetate	ug/L	20	19.3	18.5	97	93	67-126	4	30		
Vinyl chloride	ug/L	20	19.9	19.4	100	97	72-125	3	30		
Xylene (Total)	ug/L	60	58.6	58.2	98	97	75-125	1	30		
1,2-Dichloroethane-d4 (S)	%				101	98	75-125				
4-Bromofluorobenzene (S)	%				101	99	75-125				
Toluene-d8 (S)	%				100	101	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2476552		2476553								
Parameter	Units	10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	18.3	18.8	92	94	75-127	3	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	19.1	18.9	96	94	66-142	1	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.9	18.2	85	91	70-131	8	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	17.8	17.9	89	90	75-128	0	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Parameter	Units	2476552		2476553		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	21.2	20.8	106	104	54-150	2	30		
1,1-Dichloroethane	ug/L	ND	20	20	18.7	19.0	94	95	58-147	1	30		
1,1-Dichloroethene	ug/L	ND	20	20	19.4	19.0	97	95	49-150	2	30		
1,1-Dichloropropene	ug/L	ND	20	20	19.3	18.8	96	94	58-147	3	30		
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.2	18.7	91	94	57-139	3	30		
1,2,3-Trichloropropane	ug/L	ND	20	20	17.0	18.0	85	90	71-127	6	30		
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.6	19.6	93	98	55-136	5	30		
1,2,4-Trimethylbenzene	ug/L	ND	20	20	18.5	19.3	92	96	67-138	4	30		
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	38.8	44.5	78	89	63-136	14	30		
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.0	18.8	90	94	74-125	4	30		
1,2-Dichlorobenzene	ug/L	ND	20	20	17.7	18.3	88	91	75-125	3	30		
1,2-Dichloroethane	ug/L	ND	20	20	17.3	16.7	86	83	63-133	4	30		
1,2-Dichloroethene (Total)	ug/L	ND	40	40	35.8	34.9	89	87	55-146	3	30		
1,2-Dichloropropane	ug/L	ND	20	20	17.7	17.6	88	88	63-138	0	30		
1,3,5-Trimethylbenzene	ug/L	ND	20	20	17.8	18.8	89	94	69-136	5	30		
1,3-Dichlorobenzene	ug/L	ND	20	20	17.9	18.5	89	93	75-125	4	30		
1,3-Dichloropropane	ug/L	ND	20	20	17.6	17.7	88	89	65-135	1	30		
1,4-Dichlorobenzene	ug/L	ND	20	20	17.9	18.8	89	94	70-126	5	30		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	383	383	96	96	54-145	0	30		
2,2,4-Trimethylpentane	ug/L	ND	20	20	21.1	20.5	105	103	30-150	3	30		
2,2-Dichloropropane	ug/L	ND	20	20	19.4	19.2	97	96	39-148	1	30		
2-Butanone (MEK)	ug/L	ND	100	100	72.6	81.3	73	81	50-144	11	30		
2-Chlorotoluene	ug/L	ND	20	20	19.3	20.0	97	100	71-135	4	30		
2-Hexanone	ug/L	ND	100	100	77.8	88.4	78	88	43-150	13	30		
4-Chlorotoluene	ug/L	ND	20	20	17.8	18.9	89	95	71-131	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	79.4	90.3	79	90	60-147	13	30		
Acetone	ug/L	ND	100	100	98.5	93.9	98	94	59-150	5	30		
Acrolein	ug/L	ND	200	200	177	193	89	97	30-150	9	30		
Acrylonitrile	ug/L	ND	200	200	160	172	80	86	41-148	7	30		
Benzene	ug/L	ND	20	20	17.8	17.7	89	89	61-138	0	30		
Bromobenzene	ug/L	ND	20	20	17.6	18.0	88	90	74-130	2	30		
Bromochloromethane	ug/L	ND	20	20	18.2	18.6	91	93	65-137	2	30		
Bromodichloromethane	ug/L	ND	20	20	17.6	17.9	88	89	66-136	2	30		
Bromoform	ug/L	ND	20	20	18.1	18.2	91	91	71-125	0	30		
Bromomethane	ug/L	ND	20	20	18.5	19.3	93	96	30-150	4	30		
Carbon disulfide	ug/L	ND	20	20	19.3	18.8	96	94	30-150	2	30		
Carbon tetrachloride	ug/L	ND	20	20	20.5	20.5	103	102	68-140	0	30		
Chlorobenzene	ug/L	ND	20	20	17.9	18.4	89	92	75-132	3	30		
Chloroethane	ug/L	ND	20	20	20.2	20.6	101	103	55-150	2	30		
Chloroform	ug/L	ND	20	20	17.6	17.7	88	88	64-139	0	30		
Chloromethane	ug/L	ND	20	20	17.6	17.5	88	88	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	17.5	17.2	88	86	62-138	2	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.0	18.2	90	91	70-125	1	30		
Dibromochloromethane	ug/L	ND	20	20	18.1	18.3	91	92	74-125	1	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Parameter	Units	2476552		2476553		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	ND	20	20	17.7	17.7	89	89	66-138	0	30		
Dichlorodifluoromethane	ug/L	ND	20	20	22.2	21.6	111	108	53-150	3	30		
Dichlorofluoromethane	ug/L	ND	20	20	18.6	18.9	93	94	58-150	1	30		
Diisopropyl ether	ug/L	ND	20	20	17.0	17.2	85	86	50-139	1	30		
Ethyl-tert-butyl ether	ug/L	45.7	20	20	64.4	63.7	93	90	30-140	1	30		
Ethylbenzene	ug/L	ND	20	20	17.7	18.6	89	93	66-141	5	30		
Hexachloro-1,3-butadiene	ug/L	ND	20	20	23.6	23.2	118	116	63-139	2	30		
Isopropylbenzene (Cumene)	ug/L	ND	20	20	17.8	18.6	89	93	65-146	4	30		
m&p-Xylene	ug/L	ND	40	40	37.1	37.6	93	94	72-142	1	30		
Methyl-tert-butyl ether	ug/L	542	20	20	546	539	24	-15	63-134	1	30	E, M1	
Methylene Chloride	ug/L	ND	20	20	17.2	17.3	42	43	49-143	1	30	M1	
n-Butylbenzene	ug/L	ND	20	20	19.7	20.1	99	100	67-134	2	30		
n-Propylbenzene	ug/L	ND	20	20	18.3	19.0	92	95	62-142	4	30		
Naphthalene	ug/L	ND	20	20	16.3	17.9	82	90	41-150	9	30		
o-Xylene	ug/L	ND	20	20	17.8	18.7	89	94	66-138	5	30		
p-Isopropyltoluene	ug/L	ND	20	20	19.1	19.7	95	99	64-137	3	30		
sec-Butylbenzene	ug/L	ND	20	20	19.2	19.7	96	98	65-142	3	30		
Styrene	ug/L	ND	20	20	18.4	18.8	92	94	61-142	2	30		
tert-Amylmethyl ether	ug/L	ND	20	20	17.4	17.1	87	85	65-125	2	30		
tert-Butyl Alcohol	ug/L	ND	200	200	203	200	102	100	59-138	2	30		
tert-Butylbenzene	ug/L	ND	20	20	18.2	18.8	91	94	69-135	3	30		
Tetrachloroethene	ug/L	ND	20	20	19.4	19.8	97	99	62-142	2	30		
Tetrahydrofuran	ug/L	ND	200	200	192	185	96	92	55-150	4	30		
Toluene	ug/L	ND	20	20	17.8	17.9	89	90	66-132	1	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	18.3	17.7	91	88	48-150	3	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.2	18.1	91	90	65-130	1	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	42.3	46.5	85	93	31-150	9	30		
Trichloroethene	ug/L	ND	20	20	18.9	19.0	95	95	64-142	1	30		
Trichlorofluoromethane	ug/L	ND	20	20	22.7	22.5	114	112	63-150	1	30		
Vinyl acetate	ug/L	ND	20	20	22.9	23.0	84	84	30-150	0	30		
Vinyl chloride	ug/L	ND	20	20	21.1	21.3	106	106	58-150	1	30		
Xylene (Total)	ug/L	ND	60	60	55.0	56.3	92	94	70-140	2	30		
1,2-Dichloroethane-d4 (S)	%						103	96	75-125				
4-Bromofluorobenzene (S)	%						101	100	75-125				
Toluene-d8 (S)	%						101	102	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 452970 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2479801 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	12/22/16 10:16	

LABORATORY CONTROL SAMPLE & LCSD: 2479802 2479803

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	39.0	38.9	97	97	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2479804 2479805

Parameter	Units	10372883004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	809	40	40	874	835	163	66	80-120	5	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2479806 2479807

Parameter	Units	10372848001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	160	40	40	205	204	114	111	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451762

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2473578

Matrix: Water

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	7.0J	10.0	5.0	12/14/16 21:34	

LABORATORY CONTROL SAMPLE: 2473579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 2473580

Parameter	Units	10372332009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	990	990	0	10	

SAMPLE DUPLICATE: 2473581

Parameter	Units	10372848001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	248	249	0	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 69956 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 291893 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/14/16 14:42	

LABORATORY CONTROL SAMPLE: 291894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.19	93	90-110	

MATRIX SPIKE SAMPLE: 291896

Parameter	Units	2047251001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.21	97	75-125	

SAMPLE DUPLICATE: 291895

Parameter	Units	2047251001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.017J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451202 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2470878 Matrix: Water
 Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/11/16 00:54	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/11/16 00:54	
Sulfate	mg/L	<0.16	1.2	0.16	12/11/16 00:54	

LABORATORY CONTROL SAMPLE: 2470879

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	102	90-110	
Nitrate as N	mg/L	1	0.97	97	90-110	
Sulfate	mg/L	12.5	12.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2470880 2470881

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		10372848001 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Chloride	mg/L	3.7	12.5	12.5	15.9	16.0	98	98	90-110	0	20	
Nitrate as N	mg/L	1.7	1	1	2.5	2.5	79	80	90-110	0	20	M1
Sulfate	mg/L	11.3	12.5	12.5	22.7	22.8	92	92	90-110	0	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 102382 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 406971 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/16/16 15:35	

LABORATORY CONTROL SAMPLE: 406972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406973 406974

Parameter	Units	10372484001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.77J	25	25	27.0	27.1	105	105	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406975 406976

Parameter	Units	1280326003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	26.4	50	50	78.3	78.7	104	105	80-120	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 451675
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 451946
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
E Analyte concentration exceeded the calibration range. The reported result is estimated.
H1 Analysis conducted outside the recognized method holding time.
L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.
M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10372848001	MW4D-GW-120816	RSK 175	451681		
10372848002	MW6D-GW-FD-120816	RSK 175	451681		
10372848003	MW6D-GW-120816	RSK 175	451681		
10372848004	MW5D-GW-120816	RSK 175	451681		
10372848001	MW4D-GW-120816	EPA 3010	451496	6010C Met	451529
10372848002	MW6D-GW-FD-120816	EPA 3010	451496	6010C Met	451529
10372848003	MW6D-GW-120816	EPA 3010	451496	6010C Met	451529
10372848004	MW5D-GW-120816	EPA 3010	451496	6010C Met	451529
10372848001	MW4D-GW-120816	EPA 7470A	451720	EPA 7470A	451802
10372848002	MW6D-GW-FD-120816	EPA 7470A	451720	EPA 7470A	451802
10372848003	MW6D-GW-120816	EPA 7470A	451720	EPA 7470A	451802
10372848004	MW5D-GW-120816	EPA 7470A	451720	EPA 7470A	451802
10372848001	MW4D-GW-120816	EPA 8260B	452383		
10372848002	MW6D-GW-FD-120816	EPA 8260B	451946		
10372848003	MW6D-GW-120816	EPA 8260B	452383		
10372848004	MW5D-GW-120816	EPA 8260B	451675		
10372848005	Trip Blank	EPA 8260B	451675		
10372848001	MW4D-GW-120816	SM 2320B	452970		
10372848002	MW6D-GW-FD-120816	SM 2320B	452970		
10372848003	MW6D-GW-120816	SM 2320B	452970		
10372848004	MW5D-GW-120816	SM 2320B	452970		
10372848001	MW4D-GW-120816	SM 2540C	451762		
10372848002	MW6D-GW-FD-120816	SM 2540C	451762		
10372848003	MW6D-GW-120816	SM 2540C	451762		
10372848004	MW5D-GW-120816	SM 2540C	451762		
10372848001	MW4D-GW-120816	SM 4500-S-2 D	69956		
10372848002	MW6D-GW-FD-120816	SM 4500-S-2 D	69956		
10372848003	MW6D-GW-120816	SM 4500-S-2 D	69956		
10372848004	MW5D-GW-120816	SM 4500-S-2 D	69956		
10372848001	MW4D-GW-120816	EPA 300.0	451202		
10372848002	MW6D-GW-FD-120816	EPA 300.0	451202		
10372848003	MW6D-GW-120816	EPA 300.0	451202		
10372848004	MW5D-GW-120816	EPA 300.0	451202		
10372848001	MW4D-GW-120816	SM 5310C	102382		
10372848002	MW6D-GW-FD-120816	SM 5310C	102382		
10372848003	MW6D-GW-120816	SM 5310C	102382		
10372848004	MW5D-GW-120816	SM 5310C	102382		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs	Client Name: <u>UPRR CH2M Hill</u>	Project #: _____	WO#: 10372848
--	------------------------------------	------------------	---------------



Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client					
<input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Other: _____					
Tracking Number: <u>7021 4575 5462/5451</u>					
Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Optional: Proj. Due Date: _____ Proj. Name: _____			
Packing Material: <input type="checkbox"/> Bubble Wrap <input checked="" type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Thermometer <input checked="" type="checkbox"/> 151401163 <input type="checkbox"/> B88A912167504 <input type="checkbox"/> B88A0143310098	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None	<input type="checkbox"/> Samples on ice, cooling process has begun			
Used: <input type="checkbox"/> 151401164					
Cooler Temp Read (°C): <u>3.3/1.7</u>	Cooler Temp Corrected (°C): <u>3.3/1.7</u>	Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA			
Temp should be above freezing to 6°C	Correction Factor: <u>+0.2</u>	Date and Initials of Person Examining Contents: <u>Bm 12/10/16</u>			

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>171</u> <u>171</u>
(HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: <u>VOA</u> Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<u>01-09</u>
Per method, VOA pH is checked after analysis <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>103981</u>	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>10:40</u> Temp: <u>3.6</u> Corrected Temp: <u>3.6</u>	
Time: <u>10:55</u> put in cooler	
Time: _____ Temp: _____ Corrected Temp: _____	

Project Manager Review: JENNI GROSS Date: 12/12/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2047169



Workorder: 10372848

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 12/10/2016 Results Requested By: 12/27/2016

Report To		Subcontract To				Requested Analysis																		
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																						
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers						4500 Sulfide	LAB USE ONLY											
						Other																		
1	MW4D-GW-120816	PS	12/8/2016 12:45	10372848001	Water	1						X												
2	MW6D-GW-FD-120816	PS	12/8/2016 09:55	10372848002	Water	1						X												
3	MW6D-GW-120816	PS	12/8/2016 09:50	10372848003	Water	1						X												
4	MW5D-GW-120816	PS	12/8/2016 15:05	10372848004	Water	1						X												
5																								

Transfers					Comments											
Released By	Date/Time	Received By	Date/Time													
<i>[Signature]</i> Pace MN	12/12/16 1111															
<i>[Signature]</i>	12-13-16 0810	<i>[Signature]</i> Pace	12-13-16	0810												

Cooler Temperature on Receipt 4.1 °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec:

WO#: 2047169

PM: ADC

Due Date: 12/27/16

CLIENT: PASI-MINN

Project: _____

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used:

- Therm Fisher IR 5
- Therm Fisher IR 6
- Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-13-16 AB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
Page 1 of 1
Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Pace MN

Project #:

WO#: 1280290



Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: *H02 P03* Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.1 Cooler Temp Corrected °C: 2.4 Biological Tissue Frozen? Yes No NA

Temp should be above freezing to 6°C Correction Factor: -0.3 Date and Initials of Person Examining Contents: 12/12/16

Comments: 12-13-16 cr

Chain of Custody Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>UT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: *Carrin Pen*

Date: 12/13/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 22, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

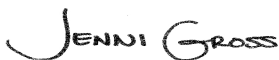
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10372848001	MW4D-GW-120816	Water	12/08/16 12:45	12/10/16 08:55
10372848002	MW6D-GW-FD-120816	Water	12/08/16 09:55	12/10/16 08:55
10372848003	MW6D-GW-120816	Water	12/08/16 09:50	12/10/16 08:55
10372848004	MW5D-GW-120816	Water	12/08/16 15:05	12/10/16 08:55
10372848005	Trip Blank	Water	12/08/16 00:00	12/10/16 08:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10372848001	MW4D-GW-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848002	MW6D-GW-FD-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	PRD	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848003	MW6D-GW-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848004	MW5D-GW-120816	RSK 175	DR1	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10372848005	Trip Blank	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10372848001	MW4D-GW-120816					
RSK 175	Methane	1.1J	ug/L	10.0	12/14/16 13:37	
6010C Met	Barium, Dissolved	49.5	ug/L	10.0	12/13/16 15:03	
6010C Met	Beryllium, Dissolved	0.11J	ug/L	5.0	12/13/16 15:03	
6010C Met	Calcium, Dissolved	40000	ug/L	500	12/13/16 15:03	
6010C Met	Cobalt, Dissolved	1.3J	ug/L	10.0	12/13/16 15:03	
6010C Met	Magnesium, Dissolved	13400	ug/L	500	12/13/16 15:03	
6010C Met	Manganese, Dissolved	57.1	ug/L	5.0	12/13/16 15:03	
6010C Met	Potassium, Dissolved	2430J	ug/L	2500	12/13/16 15:03	
6010C Met	Sodium, Dissolved	15900	ug/L	1000	12/13/16 15:03	
6010C Met	Thallium, Dissolved	4.5J	ug/L	20.0	12/13/16 15:03	
6010C Met	Vanadium, Dissolved	12.1J	ug/L	15.0	12/13/16 15:03	
6010C Met	Zinc, Dissolved	2.1J	ug/L	20.0	12/13/16 15:03	
EPA 8260B	Carbon tetrachloride	6.7	ug/L	1.0	12/19/16 14:59	
EPA 8260B	Chloroform	0.85J	ug/L	1.0	12/19/16 14:59	
SM 2320B	Alkalinity, Total as CaCO3	160	mg/L	5.0	12/22/16 12:03	
SM 2540C	Total Dissolved Solids	248	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	3.7	mg/L	1.2	12/10/16 23:36	
EPA 300.0	Nitrate as N	1.7	mg/L	0.10	12/10/16 23:36	H1,M1
EPA 300.0	Sulfate	11.3	mg/L	1.2	12/10/16 23:36	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	12/16/16 21:29	
10372848002	MW6D-GW-FD-120816					
RSK 175	Methane	1.7J	ug/L	10.0	12/14/16 13:45	
6010C Met	Arsenic, Dissolved	2.6J	ug/L	20.0	12/13/16 15:05	
6010C Met	Barium, Dissolved	13.6	ug/L	10.0	12/13/16 15:05	
6010C Met	Calcium, Dissolved	32900	ug/L	500	12/13/16 15:05	
6010C Met	Magnesium, Dissolved	14600	ug/L	500	12/13/16 15:05	
6010C Met	Manganese, Dissolved	0.78J	ug/L	5.0	12/13/16 15:05	
6010C Met	Potassium, Dissolved	7260	ug/L	2500	12/13/16 15:05	
6010C Met	Sodium, Dissolved	18400	ug/L	1000	12/13/16 15:05	
6010C Met	Vanadium, Dissolved	11.8J	ug/L	15.0	12/13/16 15:05	
EPA 8260B	Carbon tetrachloride	1.2	ug/L	1.0	12/15/16 18:59	
SM 2320B	Alkalinity, Total as CaCO3	178	mg/L	5.0	12/22/16 12:32	
SM 2540C	Total Dissolved Solids	223	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	2.9	mg/L	1.2	12/11/16 01:33	
EPA 300.0	Nitrate as N	0.33	mg/L	0.10	12/11/16 01:33	H1
EPA 300.0	Sulfate	5.5	mg/L	1.2	12/11/16 01:33	
SM 5310C	Total Organic Carbon	0.43J	mg/L	1.0	12/16/16 21:43	
10372848003	MW6D-GW-120816					
RSK 175	Methane	1.7J	ug/L	10.0	12/14/16 13:54	
6010C Met	Barium, Dissolved	13.4	ug/L	10.0	12/13/16 15:08	
6010C Met	Calcium, Dissolved	32600	ug/L	500	12/13/16 15:08	
6010C Met	Lead, Dissolved	2.4J	ug/L	10.0	12/13/16 15:08	
6010C Met	Magnesium, Dissolved	14500	ug/L	500	12/13/16 15:08	
6010C Met	Manganese, Dissolved	0.67J	ug/L	5.0	12/13/16 15:08	
6010C Met	Potassium, Dissolved	7180	ug/L	2500	12/13/16 15:08	
6010C Met	Sodium, Dissolved	18300	ug/L	1000	12/13/16 15:08	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10372848003	MW6D-GW-120816					
6010C Met	Vanadium, Dissolved	11.8J	ug/L	15.0	12/13/16 15:08	
6010C Met	Zinc, Dissolved	1.4J	ug/L	20.0	12/13/16 15:08	
EPA 8260B	Carbon tetrachloride	1.4	ug/L	1.0	12/19/16 15:21	
SM 2320B	Alkalinity, Total as CaCO3	170	mg/L	5.0	12/22/16 12:36	
SM 2540C	Total Dissolved Solids	221	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	2.9	mg/L	1.2	12/11/16 01:48	
EPA 300.0	Nitrate as N	0.35	mg/L	0.10	12/11/16 01:48	H1
EPA 300.0	Sulfate	5.6	mg/L	1.2	12/11/16 01:48	
SM 5310C	Total Organic Carbon	0.39J	mg/L	1.0	12/16/16 21:57	
10372848004	MW5D-GW-120816					
RSK 175	Methane	1.6J	ug/L	10.0	12/14/16 14:02	
6010C Met	Barium, Dissolved	98.5	ug/L	10.0	12/13/16 15:11	
6010C Met	Calcium, Dissolved	48300	ug/L	500	12/13/16 15:11	
6010C Met	Cobalt, Dissolved	0.71J	ug/L	10.0	12/13/16 15:11	
6010C Met	Iron, Dissolved	18.2J	ug/L	50.0	12/13/16 15:11	
6010C Met	Magnesium, Dissolved	14200	ug/L	500	12/13/16 15:11	
6010C Met	Manganese, Dissolved	95.3	ug/L	5.0	12/13/16 15:11	
6010C Met	Potassium, Dissolved	3350	ug/L	2500	12/13/16 15:11	
6010C Met	Sodium, Dissolved	34900	ug/L	1000	12/13/16 15:11	
6010C Met	Vanadium, Dissolved	2.1J	ug/L	15.0	12/13/16 15:11	
SM 2320B	Alkalinity, Total as CaCO3	213	mg/L	5.0	12/22/16 12:40	
SM 2540C	Total Dissolved Solids	302	mg/L	10.0	12/14/16 21:34	
EPA 300.0	Chloride	8.1	mg/L	1.2	12/11/16 00:39	
EPA 300.0	Nitrate as N	0.65	mg/L	0.10	12/11/16 00:39	H1
EPA 300.0	Sulfate	20.4	mg/L	1.2	12/11/16 00:39	
SM 5310C	Total Organic Carbon	1.8	mg/L	1.0	12/16/16 22:12	
10372848005	Trip Blank					
EPA 8260B	Methylene Chloride	0.37J	ug/L	4.0	12/14/16 12:37	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: 451681

R1: RPD value was outside control limits.

- DUP (Lab ID: 2474723)
- Methane

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

- MW6D-GW-FD-120816 (Lab ID: 10372848002)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 451946

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2474528)
 - Acrolein
- LCSD (Lab ID: 2474529)
 - Acrolein
- MS (Lab ID: 2475469)
 - Acrolein

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2474527)
 - trans-1,4-Dichloro-2-butene
- DUP (Lab ID: 2475470)
 - trans-1,4-Dichloro-2-butene
- LCS (Lab ID: 2474528)
 - trans-1,4-Dichloro-2-butene
- LCSD (Lab ID: 2474529)
 - trans-1,4-Dichloro-2-butene
- MS (Lab ID: 2475469)
 - trans-1,4-Dichloro-2-butene
- MW6D-GW-FD-120816 (Lab ID: 10372848002)
 - trans-1,4-Dichloro-2-butene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 451675

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2473230)
 - Carbon tetrachloride
 - Dibromochloromethane
- LCSD (Lab ID: 2473231)
 - 1,1,1,2-Tetrachloroethane
 - Bromoform
 - Carbon tetrachloride
 - Dibromochloromethane
 - Hexachloro-1,3-butadiene

QC Batch: 451946

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCSD (Lab ID: 2474529)
 - Acrolein
 - trans-1,4-Dichloro-2-butene

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451675

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 451946

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 452383

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373582004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2476552)
 - Methyl-tert-butyl ether
 - Methylene Chloride
- MSD (Lab ID: 2476553)
 - Methyl-tert-butyl ether
 - Methylene Chloride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 22, 2016

Additional Comments:

Analyte Comments:

QC Batch: 451675

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DUP (Lab ID: 2476595)
 - Tetrachloroethene
- MS (Lab ID: 2473232)
 - Tetrachloroethene

QC Batch: 452383

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2476552)
 - Methyl-tert-butyl ether
- MSD (Lab ID: 2476553)
 - Methyl-tert-butyl ether

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 452970

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372848001,10372883004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2479804)
 - Alkalinity, Total as CaCO₃
- MSD (Lab ID: 2479805)
 - Alkalinity, Total as CaCO₃

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- MW4D-GW-120816 (Lab ID: 10372848001)
- MW5D-GW-120816 (Lab ID: 10372848004)
- MW6D-GW-120816 (Lab ID: 10372848003)
- MW6D-GW-FD-120816 (Lab ID: 10372848002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451202

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372848001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2470880)
 - Nitrate as N
- MSD (Lab ID: 2470881)
 - Nitrate as N

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: December 22, 2016

General Information:

4 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW4D-GW-120816 **Lab ID: 10372848001** Collected: 12/08/16 12:45 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 13:37	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 13:37	74-85-1	
Methane	1.1J	ug/L	10.0	0.49	1		12/14/16 13:37	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:03	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:03	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:03	7440-38-2	
Barium, Dissolved	49.5	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:03	7440-39-3	
Beryllium, Dissolved	0.11J	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:03	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:03	7440-43-9	
Calcium, Dissolved	40000	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:03	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:03	7440-47-3	
Cobalt, Dissolved	1.3J	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:03	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:03	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:03	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:03	7439-92-1	
Magnesium, Dissolved	13400	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:03	7439-95-4	
Manganese, Dissolved	57.1	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:03	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:03	7440-02-0	
Potassium, Dissolved	2430J	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:03	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:03	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:03	7440-22-4	
Sodium, Dissolved	15900	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:03	7440-23-5	
Thallium, Dissolved	4.5J	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:03	7440-28-0	
Vanadium, Dissolved	12.1J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:03	7440-62-2	
Zinc, Dissolved	2.1J	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:03	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:44	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/19/16 14:59	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:59	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/19/16 14:59	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:59	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/19/16 14:59	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/19/16 14:59	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/19/16 14:59	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/19/16 14:59	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/19/16 14:59	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/19/16 14:59	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/19/16 14:59	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/19/16 14:59	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: **MW4D-GW-120816** Lab ID: **10372848001** Collected: 12/08/16 12:45 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/19/16 14:59	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/19/16 14:59	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/19/16 14:59	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/19/16 14:59	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/19/16 14:59	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/19/16 14:59	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/19/16 14:59	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/19/16 14:59	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/19/16 14:59	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/19/16 14:59	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/19/16 14:59	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/19/16 14:59	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/19/16 14:59	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/19/16 14:59	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/19/16 14:59	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/19/16 14:59	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/19/16 14:59	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/19/16 14:59	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/19/16 14:59	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/19/16 14:59	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/19/16 14:59	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/19/16 14:59	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/19/16 14:59	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/19/16 14:59	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/19/16 14:59	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/19/16 14:59	75-15-0	
Carbon tetrachloride	6.7	ug/L	1.0	0.079	1		12/19/16 14:59	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/19/16 14:59	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/19/16 14:59	75-00-3	
Chloroform	0.85J	ug/L	1.0	0.21	1		12/19/16 14:59	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/19/16 14:59	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		12/19/16 14:59	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/19/16 14:59	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/19/16 14:59	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/19/16 14:59	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/19/16 14:59	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/19/16 14:59	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/19/16 14:59	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/19/16 14:59	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/19/16 14:59	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/19/16 14:59	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/19/16 14:59	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/19/16 14:59	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/19/16 14:59	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/19/16 14:59	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW4D-GW-120816 **Lab ID: 10372848001** Collected: 12/08/16 12:45 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/19/16 14:59	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/19/16 14:59	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/19/16 14:59	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/19/16 14:59	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/19/16 14:59	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/19/16 14:59	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/19/16 14:59	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/19/16 14:59	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/19/16 14:59	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/19/16 14:59	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/19/16 14:59	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/19/16 14:59	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/19/16 14:59	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/19/16 14:59	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/19/16 14:59	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/19/16 14:59	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/19/16 14:59	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/19/16 14:59	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/19/16 14:59	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/19/16 14:59	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		12/19/16 14:59	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		12/19/16 14:59	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/19/16 14:59	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	160	mg/L	5.0	1.4	1		12/22/16 12:03		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	248	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:48	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	3.7	mg/L	1.2	0.10	1		12/10/16 23:36	16887-00-6	
Nitrate as N	1.7	mg/L	0.10	0.013	1		12/10/16 23:36	14797-55-8	H1,M1
Sulfate	11.3	mg/L	1.2	0.16	1		12/10/16 23:36	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	1.0	mg/L	1.0	0.20	1		12/16/16 21:29	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-FD-120816 **Lab ID:** 10372848002 Collected: 12/08/16 09:55 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 13:45	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 13:45	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		12/14/16 13:45	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:05	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:05	7440-36-0	
Arsenic, Dissolved	2.6J	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:05	7440-38-2	
Barium, Dissolved	13.6	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:05	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:05	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:05	7440-43-9	
Calcium, Dissolved	32900	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:05	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:05	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:05	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:05	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:05	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:05	7439-92-1	
Magnesium, Dissolved	14600	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:05	7439-95-4	
Manganese, Dissolved	0.78J	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:05	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:05	7440-02-0	
Potassium, Dissolved	7260	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:05	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:05	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:05	7440-22-4	
Sodium, Dissolved	18400	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:05	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:05	7440-28-0	
Vanadium, Dissolved	11.8J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:05	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:05	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:46	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/15/16 18:59	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/15/16 18:59	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/15/16 18:59	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/15/16 18:59	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/15/16 18:59	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/15/16 18:59	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/15/16 18:59	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/15/16 18:59	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/15/16 18:59	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/15/16 18:59	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/15/16 18:59	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/15/16 18:59	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-FD-120816 Lab ID: 10372848002 Collected: 12/08/16 09:55 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/15/16 18:59	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/15/16 18:59	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/15/16 18:59	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/15/16 18:59	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/15/16 18:59	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/15/16 18:59	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/15/16 18:59	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/15/16 18:59	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/15/16 18:59	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/15/16 18:59	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/15/16 18:59	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/15/16 18:59	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/15/16 18:59	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/15/16 18:59	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/15/16 18:59	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/15/16 18:59	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/15/16 18:59	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/15/16 18:59	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/15/16 18:59	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/15/16 18:59	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/15/16 18:59	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/15/16 18:59	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/15/16 18:59	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/15/16 18:59	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/15/16 18:59	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/15/16 18:59	75-15-0	
Carbon tetrachloride	1.2	ug/L	1.0	0.079	1		12/15/16 18:59	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/15/16 18:59	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/15/16 18:59	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/15/16 18:59	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/15/16 18:59	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/15/16 18:59	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/15/16 18:59	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/15/16 18:59	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/15/16 18:59	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/15/16 18:59	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/15/16 18:59	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/15/16 18:59	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/15/16 18:59	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/15/16 18:59	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/15/16 18:59	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/15/16 18:59	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/15/16 18:59	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/15/16 18:59	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/15/16 18:59	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-FD-120816 **Lab ID: 10372848002** Collected: 12/08/16 09:55 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/15/16 18:59	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/15/16 18:59	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/15/16 18:59	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/15/16 18:59	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/15/16 18:59	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/15/16 18:59	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/15/16 18:59	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/15/16 18:59	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/15/16 18:59	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/15/16 18:59	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/15/16 18:59	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/15/16 18:59	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/15/16 18:59	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/15/16 18:59	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/15/16 18:59	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/15/16 18:59	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/15/16 18:59	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/15/16 18:59	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/15/16 18:59	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/15/16 18:59	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/15/16 18:59	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/15/16 18:59	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/15/16 18:59	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	178	mg/L	5.0	1.4	1		12/22/16 12:32		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	223	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:49	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	2.9	mg/L	1.2	0.10	1		12/11/16 01:33	16887-00-6	
Nitrate as N	0.33	mg/L	0.10	0.013	1		12/11/16 01:33	14797-55-8	H1
Sulfate	5.5	mg/L	1.2	0.16	1		12/11/16 01:33	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	0.43J	mg/L	1.0	0.20	1		12/16/16 21:43	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-120816 **Lab ID: 10372848003** Collected: 12/08/16 09:50 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 13:54	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 13:54	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		12/14/16 13:54	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:08	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:08	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:08	7440-38-2	
Barium, Dissolved	13.4	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:08	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:08	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:08	7440-43-9	
Calcium, Dissolved	32600	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:08	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:08	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:08	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:08	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:08	7439-89-6	
Lead, Dissolved	2.4J	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:08	7439-92-1	
Magnesium, Dissolved	14500	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:08	7439-95-4	
Manganese, Dissolved	0.67J	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:08	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:08	7440-02-0	
Potassium, Dissolved	7180	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:08	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:08	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:08	7440-22-4	
Sodium, Dissolved	18300	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:08	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:08	7440-28-0	
Vanadium, Dissolved	11.8J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:08	7440-62-2	
Zinc, Dissolved	1.4J	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:08	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:49	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/19/16 15:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 15:21	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/19/16 15:21	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/19/16 15:21	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/19/16 15:21	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/19/16 15:21	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/19/16 15:21	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/19/16 15:21	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/19/16 15:21	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/19/16 15:21	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/19/16 15:21	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/19/16 15:21	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-120816 Lab ID: 10372848003 Collected: 12/08/16 09:50 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/19/16 15:21	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/19/16 15:21	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/19/16 15:21	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/19/16 15:21	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/19/16 15:21	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/19/16 15:21	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/19/16 15:21	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/19/16 15:21	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/19/16 15:21	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/19/16 15:21	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/19/16 15:21	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/19/16 15:21	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/19/16 15:21	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/19/16 15:21	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/19/16 15:21	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/19/16 15:21	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/19/16 15:21	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/19/16 15:21	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/19/16 15:21	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/19/16 15:21	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/19/16 15:21	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/19/16 15:21	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/19/16 15:21	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/19/16 15:21	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/19/16 15:21	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/19/16 15:21	75-15-0	
Carbon tetrachloride	1.4	ug/L	1.0	0.079	1		12/19/16 15:21	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/19/16 15:21	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/19/16 15:21	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/19/16 15:21	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/19/16 15:21	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		12/19/16 15:21	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/19/16 15:21	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/19/16 15:21	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/19/16 15:21	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/19/16 15:21	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/19/16 15:21	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/19/16 15:21	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/19/16 15:21	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/19/16 15:21	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/19/16 15:21	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/19/16 15:21	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/19/16 15:21	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/19/16 15:21	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/19/16 15:21	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW6D-GW-120816 **Lab ID: 10372848003** Collected: 12/08/16 09:50 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/19/16 15:21	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/19/16 15:21	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/19/16 15:21	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/19/16 15:21	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/19/16 15:21	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/19/16 15:21	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/19/16 15:21	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/19/16 15:21	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/19/16 15:21	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/19/16 15:21	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/19/16 15:21	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/19/16 15:21	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/19/16 15:21	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/19/16 15:21	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/19/16 15:21	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/19/16 15:21	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/19/16 15:21	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/19/16 15:21	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/19/16 15:21	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/19/16 15:21	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	75-125		1		12/19/16 15:21	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/19/16 15:21	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/19/16 15:21	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	170	mg/L	5.0	1.4	1		12/22/16 12:36		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	221	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:50	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	2.9	mg/L	1.2	0.10	1		12/11/16 01:48	16887-00-6	
Nitrate as N	0.35	mg/L	0.10	0.013	1		12/11/16 01:48	14797-55-8	H1
Sulfate	5.6	mg/L	1.2	0.16	1		12/11/16 01:48	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	0.39J	mg/L	1.0	0.20	1		12/16/16 21:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW5D-GW-120816 **Lab ID: 10372848004** Collected: 12/08/16 15:05 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/14/16 14:02	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/14/16 14:02	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		12/14/16 14:02	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/12/16 09:00	12/13/16 15:11	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:11	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/12/16 09:00	12/13/16 15:11	7440-38-2	
Barium, Dissolved	98.5	ug/L	10.0	0.20	1	12/12/16 09:00	12/13/16 15:11	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/12/16 09:00	12/13/16 15:11	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/12/16 09:00	12/13/16 15:11	7440-43-9	
Calcium, Dissolved	48300	ug/L	500	15.8	1	12/12/16 09:00	12/13/16 15:11	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/12/16 09:00	12/13/16 15:11	7440-47-3	
Cobalt, Dissolved	0.71J	ug/L	10.0	0.51	1	12/12/16 09:00	12/13/16 15:11	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/12/16 09:00	12/13/16 15:11	7440-50-8	
Iron, Dissolved	18.2J	ug/L	50.0	18.0	1	12/12/16 09:00	12/13/16 15:11	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/12/16 09:00	12/13/16 15:11	7439-92-1	
Magnesium, Dissolved	14200	ug/L	500	7.4	1	12/12/16 09:00	12/13/16 15:11	7439-95-4	
Manganese, Dissolved	95.3	ug/L	5.0	0.33	1	12/12/16 09:00	12/13/16 15:11	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/12/16 09:00	12/13/16 15:11	7440-02-0	
Potassium, Dissolved	3350	ug/L	2500	26.1	1	12/12/16 09:00	12/13/16 15:11	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/12/16 09:00	12/13/16 15:11	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/12/16 09:00	12/13/16 15:11	7440-22-4	
Sodium, Dissolved	34900	ug/L	1000	12.0	1	12/12/16 09:00	12/13/16 15:11	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/12/16 09:00	12/13/16 15:11	7440-28-0	
Vanadium, Dissolved	2.1J	ug/L	15.0	0.39	1	12/12/16 09:00	12/13/16 15:11	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/12/16 09:00	12/13/16 15:11	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/12/16 17:09	12/13/16 16:51	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/14/16 16:30	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 16:30	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/14/16 16:30	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 16:30	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/14/16 16:30	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/14/16 16:30	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/14/16 16:30	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/14/16 16:30	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/14/16 16:30	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/14/16 16:30	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/14/16 16:30	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/14/16 16:30	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW5D-GW-120816 Lab ID: 10372848004 Collected: 12/08/16 15:05 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/14/16 16:30	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/14/16 16:30	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/14/16 16:30	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/14/16 16:30	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/14/16 16:30	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/14/16 16:30	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/14/16 16:30	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/14/16 16:30	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/14/16 16:30	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/14/16 16:30	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/14/16 16:30	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/14/16 16:30	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/14/16 16:30	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/14/16 16:30	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/14/16 16:30	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/14/16 16:30	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/14/16 16:30	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/14/16 16:30	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/14/16 16:30	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/14/16 16:30	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/14/16 16:30	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/14/16 16:30	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/14/16 16:30	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/14/16 16:30	75-25-2	L3
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/14/16 16:30	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/14/16 16:30	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/14/16 16:30	56-23-5	L3
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/14/16 16:30	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/14/16 16:30	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/14/16 16:30	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/14/16 16:30	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/14/16 16:30	124-48-1	L3
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/14/16 16:30	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/14/16 16:30	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/14/16 16:30	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/14/16 16:30	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/14/16 16:30	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/14/16 16:30	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/14/16 16:30	87-68-3	L3
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/14/16 16:30	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/14/16 16:30	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/14/16 16:30	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/14/16 16:30	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/14/16 16:30	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/14/16 16:30	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: MW5D-GW-120816 **Lab ID: 10372848004** Collected: 12/08/16 15:05 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/14/16 16:30	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/14/16 16:30	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/14/16 16:30	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/14/16 16:30	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/14/16 16:30	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/14/16 16:30	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/14/16 16:30	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/14/16 16:30	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/14/16 16:30	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/14/16 16:30	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/14/16 16:30	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/14/16 16:30	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/14/16 16:30	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/14/16 16:30	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/14/16 16:30	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/14/16 16:30	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/14/16 16:30	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/14/16 16:30	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/14/16 16:30	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/14/16 16:30	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	116	%	75-125		1		12/14/16 16:30	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/14/16 16:30	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/14/16 16:30	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	213	mg/L	5.0	1.4	1		12/22/16 12:40		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	302	mg/L	10.0	5.0	1		12/14/16 21:34		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/14/16 14:50	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	8.1	mg/L	1.2	0.10	1		12/11/16 00:39	16887-00-6	
Nitrate as N	0.65	mg/L	0.10	0.013	1		12/11/16 00:39	14797-55-8	H1
Sulfate	20.4	mg/L	1.2	0.16	1		12/11/16 00:39	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.8	mg/L	1.0	0.20	1		12/16/16 22:12	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: Trip Blank **Lab ID: 10372848005** Collected: 12/08/16 00:00 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	630-20-6	L3
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/14/16 12:37	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 12:37	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/14/16 12:37	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/14/16 12:37	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/14/16 12:37	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/14/16 12:37	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/14/16 12:37	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/14/16 12:37	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/14/16 12:37	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/14/16 12:37	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/14/16 12:37	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/14/16 12:37	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/14/16 12:37	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/14/16 12:37	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/14/16 12:37	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/14/16 12:37	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/14/16 12:37	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/14/16 12:37	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/14/16 12:37	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/14/16 12:37	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/14/16 12:37	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/14/16 12:37	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/14/16 12:37	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/14/16 12:37	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/14/16 12:37	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/14/16 12:37	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/14/16 12:37	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/14/16 12:37	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/14/16 12:37	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/14/16 12:37	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/14/16 12:37	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/14/16 12:37	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/14/16 12:37	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/14/16 12:37	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/14/16 12:37	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/14/16 12:37	75-25-2	L3
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/14/16 12:37	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/14/16 12:37	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/14/16 12:37	56-23-5	L3
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/14/16 12:37	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/14/16 12:37	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/14/16 12:37	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/14/16 12:37	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/14/16 12:37	124-48-1	L3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Sample: Trip Blank **Lab ID: 10372848005** Collected: 12/08/16 00:00 Received: 12/10/16 08:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/14/16 12:37	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/14/16 12:37	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/14/16 12:37	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/14/16 12:37	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/14/16 12:37	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/14/16 12:37	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/14/16 12:37	87-68-3	L3
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/14/16 12:37	1634-04-4	
Methylene Chloride	0.37J	ug/L	4.0	0.097	1		12/14/16 12:37	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		12/14/16 12:37	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/14/16 12:37	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/14/16 12:37	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/14/16 12:37	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/14/16 12:37	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/14/16 12:37	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/14/16 12:37	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/14/16 12:37	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/14/16 12:37	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/14/16 12:37	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/14/16 12:37	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/14/16 12:37	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/14/16 12:37	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/14/16 12:37	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/14/16 12:37	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/14/16 12:37	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/14/16 12:37	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/14/16 12:37	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/14/16 12:37	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/14/16 12:37	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/14/16 12:37	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/14/16 12:37	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/14/16 12:37	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/14/16 12:37	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		12/14/16 12:37	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		12/14/16 12:37	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		12/14/16 12:37	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451681 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2473244 Matrix: Water
 Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/14/16 11:11	
Ethene	ug/L	<0.77	10.0	0.77	12/14/16 11:11	
Methane	ug/L	1.8J	10.0	0.49	12/14/16 11:11	

LABORATORY CONTROL SAMPLE & LCSD: 2473245 2473246

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	114	120	100	106	85-115	5	20	
Ethene	ug/L	106	108	113	102	106	85-115	5	20	
Methane	ug/L	60.7	61.0	63.9	101	105	85-115	5	20	

SAMPLE DUPLICATE: 2474721

Parameter	Units	60234016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	ND	1.8J		20	

SAMPLE DUPLICATE: 2474723

Parameter	Units	60234016005 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	7620	5780	27	20 R1	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451720

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2473369

Matrix: Water

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/13/16 16:14	

LABORATORY CONTROL SAMPLE: 2473370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	88	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2473371 2473372

Parameter	Units	2473371		2473372		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10373158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury, Dissolved	ug/L	<0.031	5	5	5.1	5.0	102	99	80-120	3	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 451496 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2472101 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/13/16 14:37	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/13/16 14:37	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/13/16 14:37	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	12/13/16 14:37	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/13/16 14:37	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/13/16 14:37	
Calcium, Dissolved	ug/L	23.1J	500	15.8	12/13/16 14:37	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/13/16 14:37	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/13/16 14:37	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/13/16 14:37	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/13/16 14:37	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/13/16 14:37	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/13/16 14:37	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/13/16 14:37	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/13/16 14:37	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/13/16 14:37	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/13/16 14:37	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/13/16 14:37	
Sodium, Dissolved	ug/L	26.6J	1000	12.0	12/13/16 14:37	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/13/16 14:37	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/13/16 14:37	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/13/16 14:37	

LABORATORY CONTROL SAMPLE: 2472102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	21400	107	80-120	
Antimony, Dissolved	ug/L	1000	1020	102	80-120	
Arsenic, Dissolved	ug/L	1000	1040	104	80-120	
Barium, Dissolved	ug/L	1000	1040	104	80-120	
Beryllium, Dissolved	ug/L	1000	1040	104	80-120	
Cadmium, Dissolved	ug/L	1000	1040	104	80-120	
Calcium, Dissolved	ug/L	20000	20300	102	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1030	103	80-120	
Copper, Dissolved	ug/L	1000	1010	101	80-120	
Iron, Dissolved	ug/L	20000	20300	101	80-120	
Lead, Dissolved	ug/L	1000	1040	104	80-120	
Magnesium, Dissolved	ug/L	20000	20400	102	80-120	
Manganese, Dissolved	ug/L	1000	1040	104	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE: 2472102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1030	103	80-120	
Potassium, Dissolved	ug/L	20000	19800	99	80-120	
Selenium, Dissolved	ug/L	1000	1070	107	80-120	
Silver, Dissolved	ug/L	500	508	102	80-120	
Sodium, Dissolved	ug/L	20000	19800	99	80-120	
Thallium, Dissolved	ug/L	1000	1020	102	80-120	
Vanadium, Dissolved	ug/L	1000	1020	102	80-120	
Zinc, Dissolved	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2472204 2472205

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual	
		10372996001 Result	Spike Conc.	Spike Conc.	MS Result						MSD Result
Aluminum, Dissolved	ug/L	17.0J	20000	20000	22000	21900	110	110	75-125	0	20
Antimony, Dissolved	ug/L	<2.5	1000	1000	1010	1030	101	103	75-125	2	20
Arsenic, Dissolved	ug/L	7.3J	1000	1000	1070	1060	106	105	75-125	1	20
Barium, Dissolved	ug/L	688	1000	1000	1680	1670	99	98	75-125	1	20
Beryllium, Dissolved	ug/L	0.11J	1000	1000	1070	1060	107	106	75-125	0	20
Cadmium, Dissolved	ug/L	0.54J	1000	1000	1040	1040	104	104	75-125	0	20
Calcium, Dissolved	ug/L	334000	20000	20000	359000	353000	124	96	75-125	2	20
Chromium, Dissolved	ug/L	<2.0	1000	1000	988	987	99	99	75-125	0	20
Cobalt, Dissolved	ug/L	10.9	1000	1000	979	976	97	97	75-125	0	20
Copper, Dissolved	ug/L	1.0J	1000	1000	1030	1030	103	102	75-125	0	20
Iron, Dissolved	ug/L	1060	20000	20000	20500	20500	97	97	75-125	0	20
Lead, Dissolved	ug/L	2.4J	1000	1000	991	991	99	99	75-125	0	20
Magnesium, Dissolved	ug/L	64600	20000	20000	85600	84900	105	102	75-125	1	20
Manganese, Dissolved	ug/L	7640	1000	1000	8600	8510	96	87	75-125	1	20
Nickel, Dissolved	ug/L	23.7	1000	1000	978	978	95	95	75-125	0	20
Potassium, Dissolved	ug/L	2220J	20000	20000	24400	24200	111	110	75-125	1	20
Selenium, Dissolved	ug/L	<4.5	1000	1000	1060	1070	106	107	75-125	1	20
Silver, Dissolved	ug/L	0.41J	500	500	517	516	103	103	75-125	0	20
Sodium, Dissolved	ug/L	110000	20000	20000	129000	128000	97	90	75-125	1	20
Thallium, Dissolved	ug/L	<3.8	1000	1000	947	949	94	95	75-125	0	20
Vanadium, Dissolved	ug/L	0.92J	1000	1000	1000	1000	100	100	75-125	0	20
Zinc, Dissolved	ug/L	2.5J	1000	1000	955	956	95	95	75-125	0	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451675

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV LL Water

Associated Lab Samples: 10372848004, 10372848005

METHOD BLANK: 2473229

Matrix: Water

Associated Lab Samples: 10372848004, 10372848005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/14/16 12:15	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/14/16 12:15	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/14/16 12:15	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/14/16 12:15	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/14/16 12:15	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/14/16 12:15	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/14/16 12:15	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/14/16 12:15	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/14/16 12:15	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/14/16 12:15	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/14/16 12:15	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/14/16 12:15	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/14/16 12:15	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/14/16 12:15	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/14/16 12:15	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/14/16 12:15	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/14/16 12:15	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/14/16 12:15	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/14/16 12:15	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/14/16 12:15	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/14/16 12:15	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/14/16 12:15	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/14/16 12:15	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/14/16 12:15	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/14/16 12:15	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/14/16 12:15	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/14/16 12:15	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/14/16 12:15	
Acetone	ug/L	<0.64	20.0	0.64	12/14/16 12:15	
Acrolein	ug/L	<2.1	10.0	2.1	12/14/16 12:15	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/14/16 12:15	
Benzene	ug/L	<0.042	0.50	0.042	12/14/16 12:15	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/14/16 12:15	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/14/16 12:15	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/14/16 12:15	
Bromoform	ug/L	<0.11	4.0	0.11	12/14/16 12:15	
Bromomethane	ug/L	<0.20	4.0	0.20	12/14/16 12:15	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/14/16 12:15	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/14/16 12:15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

METHOD BLANK: 2473229

Matrix: Water

Associated Lab Samples: 10372848004, 10372848005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/14/16 12:15	
Chloroethane	ug/L	<0.12	1.0	0.12	12/14/16 12:15	
Chloroform	ug/L	<0.21	1.0	0.21	12/14/16 12:15	
Chloromethane	ug/L	<0.080	4.0	0.080	12/14/16 12:15	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/14/16 12:15	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/14/16 12:15	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/14/16 12:15	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/14/16 12:15	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/14/16 12:15	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/14/16 12:15	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/14/16 12:15	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/14/16 12:15	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/14/16 12:15	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/14/16 12:15	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/14/16 12:15	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/14/16 12:15	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/14/16 12:15	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/14/16 12:15	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/14/16 12:15	
Naphthalene	ug/L	<0.064	1.0	0.064	12/14/16 12:15	
o-Xylene	ug/L	<0.044	0.50	0.044	12/14/16 12:15	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/14/16 12:15	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/14/16 12:15	
Styrene	ug/L	<0.056	0.50	0.056	12/14/16 12:15	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/14/16 12:15	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/14/16 12:15	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/14/16 12:15	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/14/16 12:15	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/14/16 12:15	
Toluene	ug/L	<0.059	0.50	0.059	12/14/16 12:15	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/14/16 12:15	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/14/16 12:15	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/14/16 12:15	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/14/16 12:15	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/14/16 12:15	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/14/16 12:15	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/14/16 12:15	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/14/16 12:15	
1,2-Dichloroethane-d4 (S)	%	116	75-125		12/14/16 12:15	
4-Bromofluorobenzene (S)	%	98	75-125		12/14/16 12:15	
Toluene-d8 (S)	%	101	75-125		12/14/16 12:15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2473230		2473231									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	24.9	26.4	124	132	75-125	6	30	L0	
1,1,1-Trichloroethane	ug/L	20	22.2	23.7	111	118	74-125	6	30		
1,1,2,2-Tetrachloroethane	ug/L	20	22.8	23.5	114	117	67-131	3	30		
1,1,2-Trichloroethane	ug/L	20	22.2	23.2	111	116	75-125	4	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	21.3	23.1	107	116	75-125	8	30		
1,1-Dichloroethane	ug/L	20	20.3	21.2	102	106	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.2	21.9	101	110	74-125	8	30		
1,1-Dichloropropene	ug/L	20	19.2	20.6	96	103	74-125	7	30		
1,2,3-Trichlorobenzene	ug/L	20	21.1	22.7	105	114	63-131	8	30		
1,2,3-Trichloropropane	ug/L	20	21.3	22.8	106	114	73-125	7	30		
1,2,4-Trichlorobenzene	ug/L	20	20.3	22.5	101	113	66-126	10	30		
1,2,4-Trimethylbenzene	ug/L	20	20.9	21.8	104	109	74-129	4	30		
1,2-Dibromo-3-chloropropane	ug/L	50	59.4	59.1	119	118	54-129	1	30		
1,2-Dibromoethane (EDB)	ug/L	20	22.6	22.5	113	113	75-125	0	30		
1,2-Dichlorobenzene	ug/L	20	20.1	21.8	100	109	75-125	8	30		
1,2-Dichloroethane	ug/L	20	21.4	22.1	107	110	75-125	3	30		
1,2-Dichloroethene (Total)	ug/L	40	40.3	42.6	101	107	75-125	6	30		
1,2-Dichloropropane	ug/L	20	19.6	20.6	98	103	75-125	5	30		
1,3,5-Trimethylbenzene	ug/L	20	20.9	22.6	105	113	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	20.7	22.5	103	112	75-125	8	30		
1,3-Dichloropropane	ug/L	20	20.3	21.5	102	108	69-125	6	30		
1,4-Dichlorobenzene	ug/L	20	20.1	21.4	100	107	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	386	502	96	125	70-130	26	30		
2,2,4-Trimethylpentane	ug/L	20	19.2	20.0	96	100	67-138	4	30		
2,2-Dichloropropane	ug/L	20	22.7	24.3	113	122	69-125	7	30		
2-Butanone (MEK)	ug/L	100	96.0	91.9	96	92	48-145	4	30		
2-Chlorotoluene	ug/L	20	19.1	21.3	96	107	74-125	11	30		
2-Hexanone	ug/L	100	104	96.7	104	97	63-135	8	30		
4-Chlorotoluene	ug/L	20	20.8	22.2	104	111	73-125	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	96.3	103	96	53-138	7	30		
Acetone	ug/L	100	77.6	92.0	78	92	70-142	17	30		
Acrolein	ug/L	200	272	268	136	134	44-150	1	30		
Acrylonitrile	ug/L	200	197	193	98	97	68-125	2	30		
Benzene	ug/L	20	18.5	19.5	92	97	65-125	5	30		
Bromobenzene	ug/L	20	21.0	21.9	105	109	75-125	4	30		
Bromochloromethane	ug/L	20	22.6	22.6	113	113	75-125	0	30		
Bromodichloromethane	ug/L	20	23.1	25.0	116	125	73-125	8	30		
Bromoform	ug/L	20	24.8	25.2	124	126	69-125	2	30	L0	
Bromomethane	ug/L	20	17.9	23.3	90	116	40-136	26	30		
Carbon disulfide	ug/L	20	19.9	21.3	99	107	36-150	7	30		
Carbon tetrachloride	ug/L	20	25.7	27.2	128	136	70-125	6	30	L0	
Chlorobenzene	ug/L	20	20.4	21.2	102	106	75-125	4	30		
Chloroethane	ug/L	20	20.2	22.0	101	110	67-141	8	30		
Chloroform	ug/L	20	20.4	21.9	102	109	75-125	7	30		
Chloromethane	ug/L	20	16.3	17.4	82	87	50-150	6	30		
cis-1,2-Dichloroethene	ug/L	20	19.8	21.2	99	106	75-125	7	30		
cis-1,3-Dichloropropene	ug/L	20	20.9	21.9	104	109	75-125	5	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2473230		2473231									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	25.3	26.3	127	132	75-125	4	30	L0	
Dibromomethane	ug/L	20	22.0	22.1	110	110	75-129	0	30		
Dichlorodifluoromethane	ug/L	20	20.1	21.3	100	106	59-135	6	30		
Dichlorofluoromethane	ug/L	20	20.8	22.4	104	112	74-130	8	30		
Diisopropyl ether	ug/L	20	17.7	18.8	89	94	71-125	6	30		
Ethyl-tert-butyl ether	ug/L	20	18.8	19.6	94	98	70-130	4	30		
Ethylbenzene	ug/L	20	20.8	21.6	104	108	75-125	4	30		
Hexachloro-1,3-butadiene	ug/L	20	24.9	28.2	125	141	72-126	13	30	L0	
Isopropylbenzene (Cumene)	ug/L	20	20.9	21.5	104	107	71-136	3	30		
m&p-Xylene	ug/L	40	41.7	43.3	104	108	75-125	4	30		
Methyl-tert-butyl ether	ug/L	20	19.9	21.1	100	106	73-127	6	30		
Methylene Chloride	ug/L	20	20.9	22.3	104	111	68-128	6	30		
n-Butylbenzene	ug/L	20	21.2	22.5	106	112	70-126	6	30		
n-Propylbenzene	ug/L	20	20.2	21.7	101	109	67-131	7	30		
Naphthalene	ug/L	20	19.6	20.1	98	101	52-134	3	30		
o-Xylene	ug/L	20	20.4	20.9	102	105	75-125	3	30		
p-Isopropyltoluene	ug/L	20	21.2	22.5	106	112	74-125	6	30		
sec-Butylbenzene	ug/L	20	20.5	21.9	103	109	69-134	6	30		
Styrene	ug/L	20	20.7	21.8	103	109	75-125	6	30		
tert-Amylmethyl ether	ug/L	20	19.0	19.1	95	96	70-130	0	30		
tert-Butyl Alcohol	ug/L	200	195	242	98	121	66-128	21	30		
tert-Butylbenzene	ug/L	20	20.2	21.9	101	109	71-128	8	30		
Tetrachloroethene	ug/L	20	21.0	21.7	105	109	74-125	4	30		
Tetrahydrofuran	ug/L	200	154	171	77	86	64-142	11	30		
Toluene	ug/L	20	19.2	19.9	96	100	75-125	3	30		
trans-1,2-Dichloroethene	ug/L	20	20.5	21.5	102	107	73-125	5	30		
trans-1,3-Dichloropropene	ug/L	20	22.5	24.0	112	120	75-125	6	30		
trans-1,4-Dichloro-2-butene	ug/L	50	50.4	52.6	101	105	54-133	4	30		
Trichloroethene	ug/L	20	20.4	21.3	102	107	75-125	4	30		
Trichlorofluoromethane	ug/L	20	23.3	24.6	116	123	75-126	6	30		
Vinyl acetate	ug/L	20	23.5	24.4	118	122	67-126	4	30		
Vinyl chloride	ug/L	20	18.4	20.0	92	100	72-125	8	30		
Xylene (Total)	ug/L	60	62.1	64.2	103	107	75-125	3	30		
1,2-Dichloroethane-d4 (S)	%				105	105	75-125				
4-Bromofluorobenzene (S)	%				97	101	75-125				
Toluene-d8 (S)	%				102	102	75-125				

MATRIX SPIKE SAMPLE: 2473232		10372881026	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	ND	20	25.5	128	75-127	M1
1,1,1-Trichloroethane	ug/L	ND	20	23.2	116	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.8	114	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	21.7	108	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	26.1	131	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2473232		10372881026	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	20.4	102	58-147	
1,1-Dichloroethene	ug/L	ND	20	23.0	115	49-150	
1,1-Dichloropropene	ug/L	ND	20	20.2	101	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	21.5	107	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	20.7	104	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.2	106	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	21.0	105	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	59.9	120	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	21.9	109	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	20.0	100	75-125	
1,2-Dichloroethane	ug/L	ND	20	20.8	104	63-133	
1,2-Dichloroethene (Total)	ug/L	76.3	40	121	112	55-146	
1,2-Dichloropropane	ug/L	ND	20	19.2	96	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	21.8	109	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	21.1	105	75-125	
1,3-Dichloropropane	ug/L	ND	20	20.2	101	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	20.2	101	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	407	102	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	24.9	124	30-150	
2,2-Dichloropropane	ug/L	ND	20	23.5	118	39-148	
2-Butanone (MEK)	ug/L	ND	100	88.0	88	50-144	
2-Chlorotoluene	ug/L	ND	20	19.8	99	71-135	
2-Hexanone	ug/L	ND	100	101	101	43-150	
4-Chlorotoluene	ug/L	ND	20	21.5	108	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	99.9	100	60-147	
Acetone	ug/L	ND	100	81.0	81	59-150	
Acrolein	ug/L	ND	200	295	148	30-150	
Acrylonitrile	ug/L	ND	200	189	94	41-148	
Benzene	ug/L	ND	20	18.7	94	61-138	
Bromobenzene	ug/L	ND	20	20.7	104	74-130	
Bromochloromethane	ug/L	ND	20	21.7	108	65-137	
Bromodichloromethane	ug/L	ND	20	23.0	115	66-136	
Bromoform	ug/L	ND	20	24.6	123	71-125	
Bromomethane	ug/L	ND	20	21.0	105	30-150	
Carbon disulfide	ug/L	ND	20	21.4	107	30-150	
Carbon tetrachloride	ug/L	ND	20	27.9	139	68-140	
Chlorobenzene	ug/L	ND	20	20.4	102	75-132	
Chloroethane	ug/L	ND	20	20.1	101	55-150	
Chloroform	ug/L	ND	20	20.8	104	64-139	
Chloromethane	ug/L	ND	20	16.3	82	73-150	
cis-1,2-Dichloroethene	ug/L	76.3	20	99.7	117	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	19.5	98	70-125	
Dibromochloromethane	ug/L	ND	20	25.2	126	74-125 MO	
Dibromomethane	ug/L	ND	20	20.4	102	66-138	
Dichlorodifluoromethane	ug/L	ND	20	22.9	114	53-150	
Dichlorofluoromethane	ug/L	ND	20	20.2	101	58-150	
Diisopropyl ether	ug/L	ND	20	18.0	90	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2473232

Parameter	Units	10372881026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	18.9	95	30-140	
Ethylbenzene	ug/L	ND	20	20.9	105	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	29.6	148	63-139	M1
Isopropylbenzene (Cumene)	ug/L	ND	20	21.1	105	65-146	
m&p-Xylene	ug/L	ND	40	41.7	104	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	20.2	101	63-134	
Methylene Chloride	ug/L	ND	20	20.3	91	49-143	
n-Butylbenzene	ug/L	ND	20	22.0	110	67-134	
n-Propylbenzene	ug/L	ND	20	20.9	105	62-142	
Naphthalene	ug/L	ND	20	19.7	99	41-150	
o-Xylene	ug/L	ND	20	20.2	101	66-138	
p-Isopropyltoluene	ug/L	ND	20	22.2	111	64-137	
sec-Butylbenzene	ug/L	ND	20	22.2	111	65-142	
Styrene	ug/L	ND	20	20.7	104	61-142	
tert-Amylmethyl ether	ug/L	ND	20	18.4	92	65-125	
tert-Butyl Alcohol	ug/L	ND	200	233	117	59-138	
tert-Butylbenzene	ug/L	ND	20	21.2	106	69-135	
Tetrachloroethene	ug/L	542	20	631	446	62-142	E,M1
Tetrahydrofuran	ug/L	ND	200	162	81	55-150	
Toluene	ug/L	ND	20	19.1	96	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	21.3	107	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	23.0	115	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	51.8	104	31-150	
Trichloroethene	ug/L	41.1	20	66.8	129	64-142	
Trichlorofluoromethane	ug/L	ND	20	24.6	123	63-150	
Vinyl acetate	ug/L	ND	20	23.5	118	30-150	
Vinyl chloride	ug/L	ND	20	19.3	96	58-150	
Xylene (Total)	ug/L	ND	60	61.9	103	70-140	
1,2-Dichloroethane-d4 (S)	%				105	75-125	
4-Bromofluorobenzene (S)	%				101	75-125	
Toluene-d8 (S)	%				99	75-125	

SAMPLE DUPLICATE: 2476595

Parameter	Units	10372881027 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2476595

Parameter	Units	10372881027 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	5.8	5.8	0	30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	<0.64		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	4.1	3.9	5	30	
Chlorobenzene	ug/L	ND	0.22J		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	2.4	2.4	0	30	
Chloromethane	ug/L	ND	<0.080		30	
cis-1,2-Dichloroethene	ug/L	5.7	5.6	1	30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2476595

Parameter	Units	10372881027 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	<0.097		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	562	677	19	30	E
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	0.16J		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	
Trichloroethene	ug/L	21.6	20.7	4	30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	118	117	1		
4-Bromofluorobenzene (S)	%	101	101	0		
Toluene-d8 (S)	%	96	99	3		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 451946 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372848002

METHOD BLANK: 2474527 Matrix: Water
Associated Lab Samples: 10372848002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/15/16 14:47	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/15/16 14:47	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/15/16 14:47	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/15/16 14:47	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/15/16 14:47	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/15/16 14:47	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/15/16 14:47	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/15/16 14:47	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/15/16 14:47	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/15/16 14:47	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/15/16 14:47	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/15/16 14:47	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/15/16 14:47	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/15/16 14:47	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/15/16 14:47	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/15/16 14:47	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/15/16 14:47	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/15/16 14:47	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/15/16 14:47	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/15/16 14:47	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/15/16 14:47	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/15/16 14:47	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/15/16 14:47	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/15/16 14:47	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/15/16 14:47	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/15/16 14:47	
Acetone	ug/L	<0.64	20.0	0.64	12/15/16 14:47	
Acrolein	ug/L	<2.1	10.0	2.1	12/15/16 14:47	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/15/16 14:47	
Benzene	ug/L	<0.042	0.50	0.042	12/15/16 14:47	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/15/16 14:47	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/15/16 14:47	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/15/16 14:47	
Bromoform	ug/L	<0.11	4.0	0.11	12/15/16 14:47	
Bromomethane	ug/L	<0.20	4.0	0.20	12/15/16 14:47	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/15/16 14:47	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/15/16 14:47	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

METHOD BLANK: 2474527 Matrix: Water
Associated Lab Samples: 10372848002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/15/16 14:47	
Chloroethane	ug/L	<0.12	1.0	0.12	12/15/16 14:47	
Chloroform	ug/L	<0.21	1.0	0.21	12/15/16 14:47	
Chloromethane	ug/L	<0.080	4.0	0.080	12/15/16 14:47	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/15/16 14:47	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/15/16 14:47	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/15/16 14:47	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/15/16 14:47	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/15/16 14:47	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/15/16 14:47	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/15/16 14:47	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/15/16 14:47	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/15/16 14:47	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/15/16 14:47	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/15/16 14:47	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/15/16 14:47	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/15/16 14:47	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/15/16 14:47	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/15/16 14:47	
Naphthalene	ug/L	0.71J	4.0	0.064	12/15/16 14:47	
o-Xylene	ug/L	<0.044	0.50	0.044	12/15/16 14:47	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/15/16 14:47	
Styrene	ug/L	<0.056	0.50	0.056	12/15/16 14:47	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/15/16 14:47	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/15/16 14:47	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/15/16 14:47	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/15/16 14:47	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/15/16 14:47	
Toluene	ug/L	<0.059	0.50	0.059	12/15/16 14:47	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/15/16 14:47	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/15/16 14:47	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/15/16 14:47	CL
Trichloroethene	ug/L	<0.044	0.40	0.044	12/15/16 14:47	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/15/16 14:47	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/15/16 14:47	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/15/16 14:47	
1,2-Dichloroethane-d4 (S)	%	95	75-125		12/15/16 14:47	
4-Bromofluorobenzene (S)	%	100	75-125		12/15/16 14:47	
Toluene-d8 (S)	%	101	75-125		12/15/16 14:47	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2474528		2474529									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.7	20.1	103	101	75-125	3	30		
1,1,1-Trichloroethane	ug/L	20	19.7	18.5	98	93	74-125	6	30		
1,1,2,2-Tetrachloroethane	ug/L	20	21.4	21.4	107	107	67-131	0	30		
1,1,2-Trichloroethane	ug/L	20	19.8	19.3	99	97	75-125	2	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	18.2	97	91	75-125	7	30		
1,1-Dichloroethane	ug/L	20	18.8	17.6	94	88	74-125	7	30		
1,1-Dichloroethene	ug/L	20	18.5	17.7	92	89	74-125	4	30		
1,1-Dichloropropene	ug/L	20	19.1	17.2	96	86	74-125	11	30		
1,2,3-Trichlorobenzene	ug/L	20	20.7	20.6	103	103	63-131	0	30		
1,2,3-Trichloropropane	ug/L	20	21.8	21.1	109	106	73-125	3	30		
1,2,4-Trichlorobenzene	ug/L	20	20.8	20.2	104	101	66-126	3	30		
1,2,4-Trimethylbenzene	ug/L	20	22.3	20.9	112	105	74-129	7	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.6	49.7	91	99	54-129	9	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.3	20.6	107	103	75-125	4	30		
1,2-Dichlorobenzene	ug/L	20	20.9	19.3	105	96	75-125	8	30		
1,2-Dichloroethane	ug/L	20	16.8	16.4	84	82	75-125	3	30		
1,2-Dichloroethene (Total)	ug/L	40	38.2	35.1	96	88	75-125	8	30		
1,2-Dichloropropane	ug/L	20	19.0	17.9	95	90	75-125	6	30		
1,3,5-Trimethylbenzene	ug/L	20	22.4	20.8	112	104	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	20.7	19.3	103	97	75-125	7	30		
1,3-Dichloropropane	ug/L	20	19.5	18.9	98	95	69-125	3	30		
1,4-Dichlorobenzene	ug/L	20	20.1	18.9	101	94	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	378	379	94	95	70-130	0	30		
2,2,4-Trimethylpentane	ug/L	20	20.4	18.3	102	91	67-138	11	30		
2,2-Dichloropropane	ug/L	20	21.0	19.7	105	98	69-125	7	30		
2-Butanone (MEK)	ug/L	100	84.3	97.9	84	98	48-145	15	30		
2-Chlorotoluene	ug/L	20	20.7	19.0	104	95	74-125	9	30		
2-Hexanone	ug/L	100	101	113	101	113	63-135	11	30		
4-Chlorotoluene	ug/L	20	21.3	19.6	106	98	73-125	8	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.2	109	98	109	53-138	10	30		
Acetone	ug/L	100	92.1	89.4	92	89	70-142	3	30		
Acrolein	ug/L	200	281	321	140	160	44-150	13	30	CH,L0	
Acrylonitrile	ug/L	200	188	204	94	102	68-125	8	30		
Benzene	ug/L	20	19.4	17.9	97	89	65-125	8	30		
Bromobenzene	ug/L	20	20.8	19.6	104	98	75-125	6	30		
Bromochloromethane	ug/L	20	19.6	18.9	98	94	75-125	4	30		
Bromodichloromethane	ug/L	20	19.2	18.5	96	92	73-125	4	30		
Bromoform	ug/L	20	17.3	16.8	86	84	69-125	3	30		
Bromomethane	ug/L	20	13.8	15.8	69	79	40-136	13	30		
Carbon disulfide	ug/L	20	18.5	17.2	92	86	36-150	7	30		
Carbon tetrachloride	ug/L	20	19.6	19.0	98	95	70-125	3	30		
Chlorobenzene	ug/L	20	19.7	18.6	98	93	75-125	6	30		
Chloroethane	ug/L	20	18.2	17.7	91	89	67-141	3	30		
Chloroform	ug/L	20	17.9	16.7	89	84	75-125	7	30		
Chloromethane	ug/L	20	18.5	18.0	92	90	50-150	3	30		
cis-1,2-Dichloroethene	ug/L	20	18.8	17.6	94	88	75-125	7	30		
cis-1,3-Dichloropropene	ug/L	20	20.2	19.4	101	97	75-125	4	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2474528		2474529								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	18.7	98	93	75-125	5	30	
Dibromomethane	ug/L	20	19.7	19.8	98	99	75-129	1	30	
Dichlorodifluoromethane	ug/L	20	17.2	17.0	86	85	59-135	1	30	
Dichlorofluoromethane	ug/L	20	18.4	17.4	92	87	74-130	6	30	
Diisopropyl ether	ug/L	20	18.0	17.3	90	86	71-125	4	30	
Ethyl-tert-butyl ether	ug/L	20	18.8	17.9	94	90	70-130	5	30	
Ethylbenzene	ug/L	20	19.3	18.1	97	90	75-125	7	30	
Hexachloro-1,3-butadiene	ug/L	20	20.8	21.8	104	109	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	21.7	20.2	109	101	71-136	7	30	
m&p-Xylene	ug/L	40	41.9	39.2	105	98	75-125	7	30	
Methyl-tert-butyl ether	ug/L	20	18.3	18.1	91	91	73-127	1	30	
Methylene Chloride	ug/L	20	18.7	17.3	93	86	68-128	8	30	
n-Butylbenzene	ug/L	20	22.1	21.0	110	105	70-126	5	30	
n-Propylbenzene	ug/L	20	21.1	19.8	105	99	67-131	6	30	
Naphthalene	ug/L	20	17.7	18.9	88	95	52-134	7	30	
o-Xylene	ug/L	20	21.5	20.4	108	102	75-125	6	30	
p-Isopropyltoluene	ug/L	20	22.9	21.4	114	107	74-125	7	30	
sec-Butylbenzene	ug/L	20	22.6	20.7	113	103	69-134	9	30	
Styrene	ug/L	20	21.4	20.0	107	100	75-125	7	30	
tert-Amylmethyl ether	ug/L	20	18.7	18.0	94	90	70-130	4	30	
tert-Butyl Alcohol	ug/L	200	200	210	100	105	66-128	5	30	
tert-Butylbenzene	ug/L	20	21.1	19.2	105	96	71-128	9	30	
Tetrachloroethene	ug/L	20	21.7	19.4	108	97	74-125	11	30	
Tetrahydrofuran	ug/L	200	198	188	99	94	64-142	5	30	
Toluene	ug/L	20	20.1	18.1	100	90	75-125	10	30	
trans-1,2-Dichloroethene	ug/L	20	19.4	17.6	97	88	73-125	10	30	
trans-1,3-Dichloropropene	ug/L	20	20.5	20.0	102	100	75-125	2	30	
trans-1,4-Dichloro-2-butene	ug/L	50	29.8	24.8	60	50	54-133	18	30	CL,L0
Trichloroethene	ug/L	20	21.1	19.3	105	97	75-125	9	30	
Trichlorofluoromethane	ug/L	20	18.7	18.0	93	90	75-126	4	30	
Vinyl acetate	ug/L	20	20.7	20.7	103	104	67-126	0	30	
Vinyl chloride	ug/L	20	17.5	17.1	88	85	72-125	3	30	
Xylene (Total)	ug/L	60	63.4	59.5	106	99	75-125	6	30	
1,2-Dichloroethane-d4 (S)	%				95	95	75-125			
4-Bromofluorobenzene (S)	%				100	98	75-125			
Toluene-d8 (S)	%				102	101	75-125			

MATRIX SPIKE SAMPLE: 2475469		1280324004	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.9	119	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	23.2	116	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.3	111	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	21.2	106	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	25.7	128	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2475469		1280324004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	21.2	106	58-147	
1,1-Dichloroethene	ug/L	ND	20	23.4	117	49-150	
1,1-Dichloropropene	ug/L	ND	20	23.2	116	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	22.4	112	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	21.8	109	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	23.1	116	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	24.7	124	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	47.9	96	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	22.8	114	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	22.3	112	75-125	
1,2-Dichloroethane	ug/L	ND	20	18.9	95	63-133	
1,2-Dichloroethene (Total)	ug/L	ND	40	43.3	108	55-146	
1,2-Dichloropropane	ug/L	ND	20	21.5	108	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	24.8	124	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	23.3	117	75-125	
1,3-Dichloropropane	ug/L	ND	20	22.3	111	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	22.0	110	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	428	107	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	ND	20	24.5	122	39-148	
2-Butanone (MEK)	ug/L	ND	100	92.1	92	50-144	
2-Chlorotoluene	ug/L	ND	20	22.5	113	71-135	
2-Hexanone	ug/L	ND	100	106	106	43-150	
4-Chlorotoluene	ug/L	ND	20	23.1	116	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	103	103	60-147	
Acetone	ug/L	27.0	100	109	82	59-150	
Acrolein	ug/L	ND	200	363	182	30-150	CH,M1
Acrylonitrile	ug/L	ND	200	200	100	41-148	
Benzene	ug/L	ND	20	22.1	111	61-138	
Bromobenzene	ug/L	ND	20	22.5	113	74-130	
Bromochloromethane	ug/L	ND	20	21.8	109	65-137	
Bromodichloromethane	ug/L	ND	20	21.1	106	66-136	
Bromoform	ug/L	ND	20	17.0	85	71-125	
Bromomethane	ug/L	ND	20	15.2	76	30-150	
Carbon disulfide	ug/L	ND	20	21.2	106	30-150	
Carbon tetrachloride	ug/L	ND	20	24.8	124	68-140	
Chlorobenzene	ug/L	ND	20	22.0	110	75-132	
Chloroethane	ug/L	ND	20	19.8	99	55-150	
Chloroform	ug/L	ND	20	20.1	101	64-139	
Chloromethane	ug/L	ND	20	19.7	96	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.9	105	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	22.2	111	70-125	
Dibromochloromethane	ug/L	ND	20	21.1	105	74-125	
Dibromomethane	ug/L	ND	20	22.3	111	66-138	
Dichlorodifluoromethane	ug/L	ND	20	20.7	103	53-150	
Dichlorofluoromethane	ug/L	ND	20	18.1	91	58-150	
Diisopropyl ether	ug/L	ND	20	20.6	103	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

MATRIX SPIKE SAMPLE: 2475469

Parameter	Units	1280324004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	20.9	105	30-140	
Ethylbenzene	ug/L	ND	20	21.7	108	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	27.6	138	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	24.6	123	65-146	
m&p-Xylene	ug/L	ND	40	47.0	117	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	19.7	98	63-134	
Methylene Chloride	ug/L	ND	20	20.1	101	49-143	
n-Butylbenzene	ug/L	ND	20	25.4	127	67-134	
n-Propylbenzene	ug/L	ND	20	24.0	120	62-142	
Naphthalene	ug/L	ND	20	19.4	97	41-150	
o-Xylene	ug/L	ND	20	24.0	120	66-138	
p-Isopropyltoluene	ug/L	ND	20	26.5	133	64-137	
sec-Butylbenzene	ug/L	ND	20	25.6	128	65-142	
Styrene	ug/L	ND	20	24.4	122	61-142	
tert-Amylmethyl ether	ug/L	ND	20	20.3	102	65-125	
tert-Butyl Alcohol	ug/L	ND	200	223	111	59-138	
tert-Butylbenzene	ug/L	ND	20	23.5	118	69-135	
Tetrachloroethene	ug/L	ND	20	25.2	126	62-142	
Tetrahydrofuran	ug/L	ND	200	214	107	55-150	
Toluene	ug/L	ND	20	22.5	112	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	22.4	112	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	22.5	113	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	23.5	47	31-150	CL
Trichloroethene	ug/L	ND	20	24.3	121	64-142	
Trichlorofluoromethane	ug/L	ND	20	21.3	107	63-150	
Vinyl acetate	ug/L	ND	20	22.6	113	30-150	
Vinyl chloride	ug/L	ND	20	17.4	87	58-150	
Xylene (Total)	ug/L	ND	60	71.0	118	70-140	
1,2-Dichloroethane-d4 (S)	%				93	75-125	
4-Bromofluorobenzene (S)	%				96	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	ND	<0.16		30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	16.9J		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	ND	<0.079		30	
Chlorobenzene	ug/L	ND	<0.066		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	ND	<0.21		30	
Chloromethane	ug/L	ND	0.29J		30	
cis-1,2-Dichloroethene	ug/L	ND	<0.12		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	<0.097		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	ND	<0.13		30	
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	CL
Trichloroethene	ug/L	ND	<0.044		30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	96	96	0		
4-Bromofluorobenzene (S)	%	102	100	2		
Toluene-d8 (S)	%	101	99	3		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 452383 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10372848001, 10372848003

METHOD BLANK: 2476549 Matrix: Water
Associated Lab Samples: 10372848001, 10372848003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/19/16 13:31	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/19/16 13:31	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/19/16 13:31	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/19/16 13:31	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/19/16 13:31	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/19/16 13:31	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/19/16 13:31	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/19/16 13:31	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/19/16 13:31	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/19/16 13:31	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/19/16 13:31	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/19/16 13:31	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/19/16 13:31	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/19/16 13:31	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/19/16 13:31	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/19/16 13:31	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/19/16 13:31	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/19/16 13:31	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/19/16 13:31	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/19/16 13:31	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/19/16 13:31	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/19/16 13:31	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/19/16 13:31	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/19/16 13:31	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/19/16 13:31	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/19/16 13:31	
Acetone	ug/L	<0.64	20.0	0.64	12/19/16 13:31	
Acrolein	ug/L	<2.1	10.0	2.1	12/19/16 13:31	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/19/16 13:31	
Benzene	ug/L	<0.042	0.50	0.042	12/19/16 13:31	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/19/16 13:31	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/19/16 13:31	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/19/16 13:31	
Bromoform	ug/L	<0.11	4.0	0.11	12/19/16 13:31	
Bromomethane	ug/L	<0.20	4.0	0.20	12/19/16 13:31	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/19/16 13:31	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/19/16 13:31	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

METHOD BLANK: 2476549

Matrix: Water

Associated Lab Samples: 10372848001, 10372848003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/19/16 13:31	
Chloroethane	ug/L	<0.12	1.0	0.12	12/19/16 13:31	
Chloroform	ug/L	<0.21	1.0	0.21	12/19/16 13:31	
Chloromethane	ug/L	<0.080	4.0	0.080	12/19/16 13:31	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/19/16 13:31	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/19/16 13:31	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	12/19/16 13:31	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/19/16 13:31	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/19/16 13:31	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/19/16 13:31	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/19/16 13:31	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/19/16 13:31	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/19/16 13:31	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/19/16 13:31	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/19/16 13:31	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/19/16 13:31	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/19/16 13:31	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/19/16 13:31	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/19/16 13:31	
Naphthalene	ug/L	<0.064	4.0	0.064	12/19/16 13:31	
o-Xylene	ug/L	<0.044	0.50	0.044	12/19/16 13:31	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/19/16 13:31	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/19/16 13:31	
Styrene	ug/L	<0.056	0.50	0.056	12/19/16 13:31	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/19/16 13:31	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/19/16 13:31	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/19/16 13:31	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/19/16 13:31	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/19/16 13:31	
Toluene	ug/L	<0.059	0.50	0.059	12/19/16 13:31	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/19/16 13:31	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/19/16 13:31	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/19/16 13:31	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/19/16 13:31	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/19/16 13:31	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/19/16 13:31	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/19/16 13:31	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/19/16 13:31	
1,2-Dichloroethane-d4 (S)	%	103	75-125		12/19/16 13:31	
4-Bromofluorobenzene (S)	%	101	75-125		12/19/16 13:31	
Toluene-d8 (S)	%	99	75-125		12/19/16 13:31	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD: 2476550		2476551								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	19.8	98	99	75-125	1	30	
1,1,1-Trichloroethane	ug/L	20	18.7	18.5	93	93	74-125	1	30	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	19.7	95	98	67-131	4	30	
1,1,2-Trichloroethane	ug/L	20	18.9	19.3	95	97	75-125	2	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.9	17.4	90	87	75-125	3	30	
1,1-Dichloroethane	ug/L	20	19.0	18.5	95	93	74-125	3	30	
1,1-Dichloroethene	ug/L	20	18.1	17.9	91	90	74-125	1	30	
1,1-Dichloropropene	ug/L	20	18.4	18.4	92	92	74-125	0	30	
1,2,3-Trichlorobenzene	ug/L	20	19.9	20.3	100	101	63-131	2	30	
1,2,3-Trichloropropane	ug/L	20	19.1	19.6	96	98	73-125	2	30	
1,2,4-Trichlorobenzene	ug/L	20	20.2	20.4	101	102	66-126	1	30	
1,2,4-Trimethylbenzene	ug/L	20	20.3	20.3	102	101	74-129	0	30	
1,2-Dibromo-3-chloropropane	ug/L	50	46.5	48.2	93	96	54-129	4	30	
1,2-Dibromoethane (EDB)	ug/L	20	19.5	20.0	98	100	75-125	2	30	
1,2-Dichlorobenzene	ug/L	20	19.8	19.5	99	97	75-125	2	30	
1,2-Dichloroethane	ug/L	20	18.7	18.1	94	90	75-125	4	30	
1,2-Dichloroethene (Total)	ug/L	40	35.3	35.2	88	88	75-125	0	30	
1,2-Dichloropropane	ug/L	20	19.0	18.8	95	94	75-125	1	30	
1,3,5-Trimethylbenzene	ug/L	20	19.7	19.4	98	97	73-127	1	30	
1,3-Dichlorobenzene	ug/L	20	19.4	19.5	97	97	75-125	0	30	
1,3-Dichloropropane	ug/L	20	18.8	19.1	94	96	69-125	1	30	
1,4-Dichlorobenzene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	346	439	86	110	70-130	24	30	
2,2,4-Trimethylpentane	ug/L	20	17.4	16.6	87	83	67-138	5	30	
2,2-Dichloropropane	ug/L	20	19.2	18.8	96	94	69-125	2	30	
2-Butanone (MEK)	ug/L	100	89.3	89.9	89	90	48-145	1	30	
2-Chlorotoluene	ug/L	20	21.2	20.9	106	105	74-125	2	30	
2-Hexanone	ug/L	100	94.2	94.4	94	94	63-135	0	30	
4-Chlorotoluene	ug/L	20	19.7	19.5	98	97	73-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.2	96.2	93	96	53-138	3	30	
Acetone	ug/L	100	91.2	104	91	104	70-142	13	30	
Acrolein	ug/L	200	186	192	93	96	44-150	3	30	
Acrylonitrile	ug/L	200	187	189	93	94	68-125	1	30	
Benzene	ug/L	20	18.0	17.9	90	90	65-125	0	30	
Bromobenzene	ug/L	20	18.8	19.1	94	95	75-125	2	30	
Bromochloromethane	ug/L	20	19.4	18.6	97	93	75-125	4	30	
Bromodichloromethane	ug/L	20	19.1	18.8	96	94	73-125	2	30	
Bromoform	ug/L	20	19.4	20.5	97	102	69-125	5	30	
Bromomethane	ug/L	20	14.3	16.2	72	81	40-136	13	30	
Carbon disulfide	ug/L	20	18.2	18.0	91	90	36-150	1	30	
Carbon tetrachloride	ug/L	20	19.8	19.3	99	96	70-125	3	30	
Chlorobenzene	ug/L	20	18.8	18.8	94	94	75-125	0	30	
Chloroethane	ug/L	20	19.6	19.2	98	96	67-141	2	30	
Chloroform	ug/L	20	17.9	18.0	89	90	75-125	1	30	
Chloromethane	ug/L	20	17.2	16.6	86	83	50-150	4	30	
cis-1,2-Dichloroethene	ug/L	20	17.9	17.7	89	89	75-125	1	30	
cis-1,3-Dichloropropene	ug/L	20	19.6	19.5	98	98	75-125	1	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

LABORATORY CONTROL SAMPLE & LCSD:		2476550		2476551							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	19.2	19.7	96	99	75-125	3	30		
Dibromomethane	ug/L	20	19.4	18.9	97	95	75-129	3	30		
Dichlorodifluoromethane	ug/L	20	17.9	17.8	89	89	59-135	1	30		
Dichlorofluoromethane	ug/L	20	18.1	18.0	90	90	74-130	0	30		
Diisopropyl ether	ug/L	20	18.2	17.9	91	90	71-125	1	30		
Ethyl-tert-butyl ether	ug/L	20	19.5	19.3	97	97	70-130	1	30		
Ethylbenzene	ug/L	20	18.8	18.5	94	93	75-125	1	30		
Hexachloro-1,3-butadiene	ug/L	20	21.3	21.3	106	107	72-126	0	30		
Isopropylbenzene (Cumene)	ug/L	20	19.3	19.2	96	96	71-136	0	30		
m&p-Xylene	ug/L	40	39.2	38.9	98	97	75-125	1	30		
Methyl-tert-butyl ether	ug/L	20	18.8	18.7	94	93	73-127	1	30		
Methylene Chloride	ug/L	20	18.7	18.4	93	92	68-128	1	30		
n-Butylbenzene	ug/L	20	20.7	20.1	103	101	70-126	3	30		
n-Propylbenzene	ug/L	20	19.6	19.2	98	96	67-131	2	30		
Naphthalene	ug/L	20	19.3	19.4	97	97	52-134	0	30		
o-Xylene	ug/L	20	19.4	19.3	97	96	75-125	1	30		
p-Isopropyltoluene	ug/L	20	20.1	20.1	101	100	74-125	0	30		
sec-Butylbenzene	ug/L	20	19.9	19.8	99	99	69-134	1	30		
Styrene	ug/L	20	19.5	19.7	97	99	75-125	1	30		
tert-Amylmethyl ether	ug/L	20	19.1	18.8	95	94	70-130	1	30		
tert-Butyl Alcohol	ug/L	200	181	217	91	109	66-128	18	30		
tert-Butylbenzene	ug/L	20	19.4	19.4	97	97	71-128	0	30		
Tetrachloroethene	ug/L	20	19.0	19.9	95	99	74-125	4	30		
Tetrahydrofuran	ug/L	200	183	203	91	102	64-142	11	30		
Toluene	ug/L	20	17.6	18.0	88	90	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	17.5	17.5	87	88	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	19.5	19.3	98	96	75-125	1	30		
trans-1,4-Dichloro-2-butene	ug/L	50	50.1	50.0	100	100	54-133	0	30		
Trichloroethene	ug/L	20	19.5	19.0	98	95	75-125	3	30		
Trichlorofluoromethane	ug/L	20	19.4	19.5	97	98	75-126	0	30		
Vinyl acetate	ug/L	20	19.3	18.5	97	93	67-126	4	30		
Vinyl chloride	ug/L	20	19.9	19.4	100	97	72-125	3	30		
Xylene (Total)	ug/L	60	58.6	58.2	98	97	75-125	1	30		
1,2-Dichloroethane-d4 (S)	%				101	98	75-125				
4-Bromofluorobenzene (S)	%				101	99	75-125				
Toluene-d8 (S)	%				100	101	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2476552		2476553								
Parameter	Units	10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	18.3	18.8	92	94	75-127	3	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	19.1	18.9	96	94	66-142	1	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.9	18.2	85	91	70-131	8	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	17.8	17.9	89	90	75-128	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Parameter	Units	2476552		2476553		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	21.2	20.8	106	104	54-150	2	30		
1,1-Dichloroethane	ug/L	ND	20	20	18.7	19.0	94	95	58-147	1	30		
1,1-Dichloroethene	ug/L	ND	20	20	19.4	19.0	97	95	49-150	2	30		
1,1-Dichloropropene	ug/L	ND	20	20	19.3	18.8	96	94	58-147	3	30		
1,2,3-Trichlorobenzene	ug/L	ND	20	20	18.2	18.7	91	94	57-139	3	30		
1,2,3-Trichloropropane	ug/L	ND	20	20	17.0	18.0	85	90	71-127	6	30		
1,2,4-Trichlorobenzene	ug/L	ND	20	20	18.6	19.6	93	98	55-136	5	30		
1,2,4-Trimethylbenzene	ug/L	ND	20	20	18.5	19.3	92	96	67-138	4	30		
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	38.8	44.5	78	89	63-136	14	30		
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.0	18.8	90	94	74-125	4	30		
1,2-Dichlorobenzene	ug/L	ND	20	20	17.7	18.3	88	91	75-125	3	30		
1,2-Dichloroethane	ug/L	ND	20	20	17.3	16.7	86	83	63-133	4	30		
1,2-Dichloroethene (Total)	ug/L	ND	40	40	35.8	34.9	89	87	55-146	3	30		
1,2-Dichloropropane	ug/L	ND	20	20	17.7	17.6	88	88	63-138	0	30		
1,3,5-Trimethylbenzene	ug/L	ND	20	20	17.8	18.8	89	94	69-136	5	30		
1,3-Dichlorobenzene	ug/L	ND	20	20	17.9	18.5	89	93	75-125	4	30		
1,3-Dichloropropane	ug/L	ND	20	20	17.6	17.7	88	89	65-135	1	30		
1,4-Dichlorobenzene	ug/L	ND	20	20	17.9	18.8	89	94	70-126	5	30		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	383	383	96	96	54-145	0	30		
2,2,4-Trimethylpentane	ug/L	ND	20	20	21.1	20.5	105	103	30-150	3	30		
2,2-Dichloropropane	ug/L	ND	20	20	19.4	19.2	97	96	39-148	1	30		
2-Butanone (MEK)	ug/L	ND	100	100	72.6	81.3	73	81	50-144	11	30		
2-Chlorotoluene	ug/L	ND	20	20	19.3	20.0	97	100	71-135	4	30		
2-Hexanone	ug/L	ND	100	100	77.8	88.4	78	88	43-150	13	30		
4-Chlorotoluene	ug/L	ND	20	20	17.8	18.9	89	95	71-131	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	79.4	90.3	79	90	60-147	13	30		
Acetone	ug/L	ND	100	100	98.5	93.9	98	94	59-150	5	30		
Acrolein	ug/L	ND	200	200	177	193	89	97	30-150	9	30		
Acrylonitrile	ug/L	ND	200	200	160	172	80	86	41-148	7	30		
Benzene	ug/L	ND	20	20	17.8	17.7	89	89	61-138	0	30		
Bromobenzene	ug/L	ND	20	20	17.6	18.0	88	90	74-130	2	30		
Bromochloromethane	ug/L	ND	20	20	18.2	18.6	91	93	65-137	2	30		
Bromodichloromethane	ug/L	ND	20	20	17.6	17.9	88	89	66-136	2	30		
Bromoform	ug/L	ND	20	20	18.1	18.2	91	91	71-125	0	30		
Bromomethane	ug/L	ND	20	20	18.5	19.3	93	96	30-150	4	30		
Carbon disulfide	ug/L	ND	20	20	19.3	18.8	96	94	30-150	2	30		
Carbon tetrachloride	ug/L	ND	20	20	20.5	20.5	103	102	68-140	0	30		
Chlorobenzene	ug/L	ND	20	20	17.9	18.4	89	92	75-132	3	30		
Chloroethane	ug/L	ND	20	20	20.2	20.6	101	103	55-150	2	30		
Chloroform	ug/L	ND	20	20	17.6	17.7	88	88	64-139	0	30		
Chloromethane	ug/L	ND	20	20	17.6	17.5	88	88	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	17.5	17.2	88	86	62-138	2	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	18.0	18.2	90	91	70-125	1	30		
Dibromochloromethane	ug/L	ND	20	20	18.1	18.3	91	92	74-125	1	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Parameter	Units	2476552		2476553		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10373582004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	ND	20	20	17.7	17.7	89	89	66-138	0	30		
Dichlorodifluoromethane	ug/L	ND	20	20	22.2	21.6	111	108	53-150	3	30		
Dichlorofluoromethane	ug/L	ND	20	20	18.6	18.9	93	94	58-150	1	30		
Diisopropyl ether	ug/L	ND	20	20	17.0	17.2	85	86	50-139	1	30		
Ethyl-tert-butyl ether	ug/L	45.7	20	20	64.4	63.7	93	90	30-140	1	30		
Ethylbenzene	ug/L	ND	20	20	17.7	18.6	89	93	66-141	5	30		
Hexachloro-1,3-butadiene	ug/L	ND	20	20	23.6	23.2	118	116	63-139	2	30		
Isopropylbenzene (Cumene)	ug/L	ND	20	20	17.8	18.6	89	93	65-146	4	30		
m&p-Xylene	ug/L	ND	40	40	37.1	37.6	93	94	72-142	1	30		
Methyl-tert-butyl ether	ug/L	542	20	20	546	539	24	-15	63-134	1	30	E, M1	
Methylene Chloride	ug/L	ND	20	20	17.2	17.3	42	43	49-143	1	30	M1	
n-Butylbenzene	ug/L	ND	20	20	19.7	20.1	99	100	67-134	2	30		
n-Propylbenzene	ug/L	ND	20	20	18.3	19.0	92	95	62-142	4	30		
Naphthalene	ug/L	ND	20	20	16.3	17.9	82	90	41-150	9	30		
o-Xylene	ug/L	ND	20	20	17.8	18.7	89	94	66-138	5	30		
p-Isopropyltoluene	ug/L	ND	20	20	19.1	19.7	95	99	64-137	3	30		
sec-Butylbenzene	ug/L	ND	20	20	19.2	19.7	96	98	65-142	3	30		
Styrene	ug/L	ND	20	20	18.4	18.8	92	94	61-142	2	30		
tert-Amylmethyl ether	ug/L	ND	20	20	17.4	17.1	87	85	65-125	2	30		
tert-Butyl Alcohol	ug/L	ND	200	200	203	200	102	100	59-138	2	30		
tert-Butylbenzene	ug/L	ND	20	20	18.2	18.8	91	94	69-135	3	30		
Tetrachloroethene	ug/L	ND	20	20	19.4	19.8	97	99	62-142	2	30		
Tetrahydrofuran	ug/L	ND	200	200	192	185	96	92	55-150	4	30		
Toluene	ug/L	ND	20	20	17.8	17.9	89	90	66-132	1	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	18.3	17.7	91	88	48-150	3	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	18.2	18.1	91	90	65-130	1	30		
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	42.3	46.5	85	93	31-150	9	30		
Trichloroethene	ug/L	ND	20	20	18.9	19.0	95	95	64-142	1	30		
Trichlorofluoromethane	ug/L	ND	20	20	22.7	22.5	114	112	63-150	1	30		
Vinyl acetate	ug/L	ND	20	20	22.9	23.0	84	84	30-150	0	30		
Vinyl chloride	ug/L	ND	20	20	21.1	21.3	106	106	58-150	1	30		
Xylene (Total)	ug/L	ND	60	60	55.0	56.3	92	94	70-140	2	30		
1,2-Dichloroethane-d4 (S)	%						103	96	75-125				
4-Bromofluorobenzene (S)	%						101	100	75-125				
Toluene-d8 (S)	%						101	102	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 452970 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2479801 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	12/22/16 10:16	

LABORATORY CONTROL SAMPLE & LCSD: 2479802 2479803

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	39.0	38.9	97	97	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2479804 2479805

Parameter	Units	10372883004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	809	40	40	874	835	163	66	80-120	5	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2479806 2479807

Parameter	Units	10372848001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	160	40	40	205	204	114	111	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451762

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2473578

Matrix: Water

Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	7.0J	10.0	5.0	12/14/16 21:34	

LABORATORY CONTROL SAMPLE: 2473579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 2473580

Parameter	Units	10372332009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	990	990	0	10	

SAMPLE DUPLICATE: 2473581

Parameter	Units	10372848001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	248	249	0	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 69956 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 291893 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/14/16 14:42	

LABORATORY CONTROL SAMPLE: 291894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.19	93	90-110	

MATRIX SPIKE SAMPLE: 291896

Parameter	Units	2047251001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.21	97	75-125	

SAMPLE DUPLICATE: 291895

Parameter	Units	2047251001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	0.017J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

QC Batch: 451202 Analysis Method: EPA 300.0
 QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
 Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 2470878 Matrix: Water
 Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/11/16 00:54	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/11/16 00:54	
Sulfate	mg/L	<0.16	1.2	0.16	12/11/16 00:54	

LABORATORY CONTROL SAMPLE: 2470879

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	102	90-110	
Nitrate as N	mg/L	1	0.97	97	90-110	
Sulfate	mg/L	12.5	12.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2470880 2470881

Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		10372848001 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
Chloride	mg/L	3.7	12.5	12.5	15.9	16.0	98	98	90-110	0	20	
Nitrate as N	mg/L	1.7	1	1	2.5	2.5	79	80	90-110	0	20	M1
Sulfate	mg/L	11.3	12.5	12.5	22.7	22.8	92	92	90-110	0	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

QC Batch: 102382 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

METHOD BLANK: 406971 Matrix: Water
Associated Lab Samples: 10372848001, 10372848002, 10372848003, 10372848004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/16/16 15:35	

LABORATORY CONTROL SAMPLE: 406972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406973 406974

Parameter	Units	10372484001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max		Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Total Organic Carbon	mg/L	0.77J	25	25	27.0	27.1	105	105	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406975 406976

Parameter	Units	1280326003 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max		Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	
Total Organic Carbon	mg/L	26.4	50	50	78.3	78.7	104	105	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 451675
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: 451946
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
E Analyte concentration exceeded the calibration range. The reported result is estimated.
H1 Analysis conducted outside the recognized method holding time.
L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.
L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.
M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10372848

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: 1497 UPRR_Freeman
Pace Project No.: 10372848

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10372848001	MW4D-GW-120816	RSK 175	451681		
10372848002	MW6D-GW-FD-120816	RSK 175	451681		
10372848003	MW6D-GW-120816	RSK 175	451681		
10372848004	MW5D-GW-120816	RSK 175	451681		
10372848001	MW4D-GW-120816	EPA 3010	451496	6010C Met	451529
10372848002	MW6D-GW-FD-120816	EPA 3010	451496	6010C Met	451529
10372848003	MW6D-GW-120816	EPA 3010	451496	6010C Met	451529
10372848004	MW5D-GW-120816	EPA 3010	451496	6010C Met	451529
10372848001	MW4D-GW-120816	EPA 7470A	451720	EPA 7470A	451802
10372848002	MW6D-GW-FD-120816	EPA 7470A	451720	EPA 7470A	451802
10372848003	MW6D-GW-120816	EPA 7470A	451720	EPA 7470A	451802
10372848004	MW5D-GW-120816	EPA 7470A	451720	EPA 7470A	451802
10372848001	MW4D-GW-120816	EPA 8260B	452383		
10372848002	MW6D-GW-FD-120816	EPA 8260B	451946		
10372848003	MW6D-GW-120816	EPA 8260B	452383		
10372848004	MW5D-GW-120816	EPA 8260B	451675		
10372848005	Trip Blank	EPA 8260B	451675		
10372848001	MW4D-GW-120816	SM 2320B	452970		
10372848002	MW6D-GW-FD-120816	SM 2320B	452970		
10372848003	MW6D-GW-120816	SM 2320B	452970		
10372848004	MW5D-GW-120816	SM 2320B	452970		
10372848001	MW4D-GW-120816	SM 2540C	451762		
10372848002	MW6D-GW-FD-120816	SM 2540C	451762		
10372848003	MW6D-GW-120816	SM 2540C	451762		
10372848004	MW5D-GW-120816	SM 2540C	451762		
10372848001	MW4D-GW-120816	SM 4500-S-2 D	69956		
10372848002	MW6D-GW-FD-120816	SM 4500-S-2 D	69956		
10372848003	MW6D-GW-120816	SM 4500-S-2 D	69956		
10372848004	MW5D-GW-120816	SM 4500-S-2 D	69956		
10372848001	MW4D-GW-120816	EPA 300.0	451202		
10372848002	MW6D-GW-FD-120816	EPA 300.0	451202		
10372848003	MW6D-GW-120816	EPA 300.0	451202		
10372848004	MW5D-GW-120816	EPA 300.0	451202		
10372848001	MW4D-GW-120816	SM 5310C	102382		
10372848002	MW6D-GW-FD-120816	SM 5310C	102382		
10372848003	MW6D-GW-120816	SM 5310C	102382		
10372848004	MW5D-GW-120816	SM 5310C	102382		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs	Client Name: <u>UPRR CH2M Hill</u>	Project #: WO# : 10372848
---	---------------------------------------	-------------------------------------

Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Other: _____		 10372848
Tracking Number: <u>7021 4575 5462/5451</u>		
Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Optional: Proj. Due Date: Proj. Name:
Packing Material: <input type="checkbox"/> Bubble Wrap <input checked="" type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____		Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer Used: <input checked="" type="checkbox"/> 151401163 <input type="checkbox"/> 151401164 <input type="checkbox"/> B88A912167504 <input type="checkbox"/> B88A0143310098		Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun
Cooler Temp Read (°C): <u>3.3/1.7</u> Cooler Temp Corrected (°C): <u>3.3/1.7</u>		Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA
Temp should be above freezing to 6°C Correction Factor: <u>+0.2</u>		Date and Initials of Person Examining Contents: <u>Bm 12/10/16</u>

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>171</u> <u>171</u>
(HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: <u>VOA</u> Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<u>01-09</u>
Per method, VOA pH is checked after analysis <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>103981</u>	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>10:40</u> Temp: <u>3.6</u> Corrected Temp: <u>3.6</u>	
Time: <u>10:55</u> put in cooler	
Time: Temp: Corrected Temp:	

Project Manager Review: JENNI GROSS Date: 12/12/16
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Rec:

WO#: 2047169

PM: ADC

Due Date: 12/27/16

CLIENT: PASI-MINN

Project: _____

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used:

- Therm Fisher IR 5
- Therm Fisher IR 6
- Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-13-16 AB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
Page 1 of 1
Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:
Pace MN

Project #:

WO# : 1280290

 1280290

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: H02 P03 Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.1 Cooler Temp Corrected °C: 2.4 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: -0.3 Date and Initials of Person Examining Contents: 12/12/16

Comments: 12-13-16 cr

Chain of Custody Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>UT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrin Pen

Date: 12/13/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

January 17, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

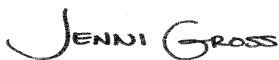
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on January 17th 2017 to qualify the nitrate results as being analyzed outside of the holding time. Analysis was analyzed outside of the holding time per client request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10373269001	MW1D-GW-120916	Water	12/09/16 09:35	12/14/16 10:40
10373269002	MW2D-GW-120916	Water	12/09/16 12:25	12/14/16 10:40
10373269003	W26-GW-120916	Water	12/09/16 14:40	12/14/16 10:40
10373269004	W20-GW-121016	Water	12/10/16 11:45	12/14/16 10:40
10373269005	MW3D-GW-121016	Water	12/10/16 09:05	12/14/16 10:40
10373269006	EB121016	Water	12/10/16 13:00	12/14/16 10:40
10373269007	TB120916	Water	12/09/16 09:00	12/14/16 10:40
10373269008	TB121016	Water	12/10/16 09:00	12/14/16 10:40

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10373269001	MW1D-GW-120916	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	PRD	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10373269002	MW2D-GW-120916	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10373269003	W26-GW-120916	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10373269004	W20-GW-121016	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10373269005	MW3D-GW-121016	RSK 175	MJL	3	PASI-M

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10373269006	EB121016	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CSD	1	PASI-V
10373269007	TB120916	EPA 8260B	PRD	83	PASI-M
10373269008	TB121016	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10373269001	MW1D-GW-120916					
RSK 175	Ethane	4.2J	ug/L	10.0	12/16/16 14:37	
RSK 175	Ethene	1.4J	ug/L	10.0	12/16/16 14:37	
RSK 175	Methane	8.8J	ug/L	10.0	12/16/16 14:37	
6010C Met	Arsenic, Dissolved	5.0J	ug/L	20.0	12/15/16 11:12	
6010C Met	Barium, Dissolved	69.6	ug/L	10.0	12/15/16 11:12	
6010C Met	Calcium, Dissolved	49700	ug/L	500	12/15/16 11:12	
6010C Met	Cobalt, Dissolved	2.1J	ug/L	10.0	12/15/16 11:12	
6010C Met	Iron, Dissolved	3080	ug/L	50.0	12/15/16 11:12	
6010C Met	Magnesium, Dissolved	12400	ug/L	500	12/15/16 11:12	
6010C Met	Manganese, Dissolved	717	ug/L	5.0	12/15/16 11:12	
6010C Met	Potassium, Dissolved	3480	ug/L	2500	12/15/16 11:12	
6010C Met	Sodium, Dissolved	13100	ug/L	1000	12/15/16 11:12	
SM 2320B	Alkalinity, Total as CaCO3	195	mg/L	5.0	12/22/16 13:46	M1
SM 2540C	Total Dissolved Solids	229	mg/L	10.0	12/15/16 21:20	
EPA 300.0	Chloride	2.1	mg/L	1.2	12/20/16 17:14	
EPA 300.0	Sulfate	2.1	mg/L	1.2	12/20/16 17:14	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	12/17/16 04:51	
10373269002	MW2D-GW-120916					
RSK 175	Ethane	19.8	ug/L	10.0	12/16/16 14:54	
RSK 175	Ethene	4.5J	ug/L	10.0	12/16/16 14:54	
RSK 175	Methane	54.2	ug/L	10.0	12/16/16 14:54	
6010C Met	Barium, Dissolved	86.4	ug/L	10.0	12/15/16 11:25	
6010C Met	Calcium, Dissolved	34600	ug/L	500	12/15/16 11:25	
6010C Met	Cobalt, Dissolved	1.2J	ug/L	10.0	12/15/16 11:25	
6010C Met	Iron, Dissolved	1580	ug/L	50.0	12/15/16 11:25	
6010C Met	Magnesium, Dissolved	10500	ug/L	500	12/15/16 11:25	
6010C Met	Manganese, Dissolved	1440	ug/L	5.0	12/15/16 11:25	
6010C Met	Potassium, Dissolved	5760	ug/L	2500	12/15/16 11:25	
6010C Met	Sodium, Dissolved	18800	ug/L	1000	12/15/16 11:25	
6010C Met	Vanadium, Dissolved	0.48J	ug/L	15.0	12/15/16 11:25	
EPA 8260B	1,2-Dichloroethane	0.11J	ug/L	0.50	12/18/16 08:01	
EPA 8260B	Acetone	3.9J	ug/L	20.0	12/18/16 08:01	
EPA 8260B	Benzene	0.69	ug/L	0.50	12/18/16 08:01	
EPA 8260B	Chloromethane	0.75J	ug/L	4.0	12/18/16 08:01	
EPA 8260B	Ethylbenzene	0.28J	ug/L	0.50	12/18/16 08:01	
EPA 8260B	Naphthalene	0.72J	ug/L	4.0	12/18/16 08:01	B
EPA 8260B	Toluene	0.59	ug/L	0.50	12/18/16 08:01	
EPA 8260B	m&p-Xylene	0.28J	ug/L	1.0	12/18/16 08:01	
EPA 8260B	n-Propylbenzene	0.18J	ug/L	0.50	12/18/16 08:01	
EPA 8260B	o-Xylene	0.32J	ug/L	0.50	12/18/16 08:01	
SM 2320B	Alkalinity, Total as CaCO3	158	mg/L	5.0	12/22/16 14:00	
SM 2540C	Total Dissolved Solids	196	mg/L	10.0	12/15/16 21:20	
EPA 300.0	Chloride	1.7	mg/L	1.2	12/20/16 18:17	
EPA 300.0	Sulfate	0.54J	mg/L	1.2	12/20/16 18:17	
SM 5310C	Total Organic Carbon	6.6	mg/L	1.0	12/17/16 05:05	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10373269003	W26-GW-120916					
RSK 175	Methane	1.2J	ug/L	10.0	12/16/16 15:02	
6010C Met	Barium, Dissolved	6.2J	ug/L	10.0	12/15/16 11:28	
6010C Met	Calcium, Dissolved	37900	ug/L	500	12/15/16 11:28	
6010C Met	Magnesium, Dissolved	11200	ug/L	500	12/15/16 11:28	
6010C Met	Manganese, Dissolved	0.83J	ug/L	5.0	12/15/16 11:28	
6010C Met	Potassium, Dissolved	2120J	ug/L	2500	12/15/16 11:28	
6010C Met	Sodium, Dissolved	13400	ug/L	1000	12/15/16 11:28	
6010C Met	Vanadium, Dissolved	7.0J	ug/L	15.0	12/15/16 11:28	
6010C Met	Zinc, Dissolved	128	ug/L	20.0	12/15/16 11:28	
EPA 8260B	Carbon tetrachloride	22.5	ug/L	1.0	12/18/16 08:17	
EPA 8260B	Chloroform	1.5	ug/L	1.0	12/18/16 08:17	
SM 2320B	Alkalinity, Total as CaCO ₃	142	mg/L	5.0	12/22/16 14:05	
SM 2540C	Total Dissolved Solids	227	mg/L	10.0	12/15/16 21:20	
EPA 300.0	Chloride	4.2	mg/L	1.2	12/20/16 19:03	
EPA 300.0	Nitrate as N	1.9	mg/L	0.10	12/20/16 19:03	H3
EPA 300.0	Sulfate	8.8	mg/L	1.2	12/20/16 19:03	
SM 5310C	Total Organic Carbon	0.64J	mg/L	1.0	12/17/16 05:19	
10373269004	W20-GW-121016					
RSK 175	Methane	30.5	ug/L	10.0	12/16/16 15:10	
6010C Met	Barium, Dissolved	16.6	ug/L	10.0	12/15/16 11:37	
6010C Met	Calcium, Dissolved	41000	ug/L	500	12/15/16 11:37	
6010C Met	Iron, Dissolved	1010	ug/L	50.0	12/15/16 11:37	
6010C Met	Magnesium, Dissolved	14200	ug/L	500	12/15/16 11:37	
6010C Met	Manganese, Dissolved	47.0	ug/L	5.0	12/15/16 11:37	
6010C Met	Potassium, Dissolved	2170J	ug/L	2500	12/15/16 11:37	
6010C Met	Sodium, Dissolved	10900	ug/L	1000	12/15/16 11:37	
6010C Met	Thallium, Dissolved	3.8J	ug/L	20.0	12/15/16 11:37	
6010C Met	Vanadium, Dissolved	3.7J	ug/L	15.0	12/15/16 11:37	
6010C Met	Zinc, Dissolved	3.6J	ug/L	20.0	12/15/16 11:37	
SM 2320B	Alkalinity, Total as CaCO ₃	138	mg/L	5.0	12/22/16 14:09	
SM 2540C	Total Dissolved Solids	244	mg/L	10.0	12/15/16 21:20	
SM 4500-S-2 D	Sulfide, Total	1.5	mg/L	0.20	12/16/16 15:16	
EPA 300.0	Chloride	2.4	mg/L	1.2	12/20/16 19:18	
EPA 300.0	Nitrate as N	4.7	mg/L	0.10	12/20/16 19:18	H3
EPA 300.0	Sulfate	18.2	mg/L	1.2	12/20/16 19:18	
SM 5310C	Total Organic Carbon	0.79J	mg/L	1.0	12/17/16 05:34	
10373269005	MW3D-GW-121016					
RSK 175	Methane	1.0J	ug/L	10.0	12/16/16 15:18	
6010C Met	Aluminum, Dissolved	77.4J	ug/L	200	12/15/16 11:40	
6010C Met	Arsenic, Dissolved	2.5J	ug/L	20.0	12/15/16 11:40	
6010C Met	Barium, Dissolved	43.3	ug/L	10.0	12/15/16 11:40	
6010C Met	Calcium, Dissolved	31400	ug/L	500	12/15/16 11:40	
6010C Met	Copper, Dissolved	0.97J	ug/L	10.0	12/15/16 11:40	
6010C Met	Iron, Dissolved	66.2	ug/L	50.0	12/15/16 11:40	
6010C Met	Magnesium, Dissolved	9400	ug/L	500	12/15/16 11:40	
6010C Met	Manganese, Dissolved	34.6	ug/L	5.0	12/15/16 11:40	

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10373269005	MW3D-GW-121016					
6010C Met	Potassium, Dissolved	1130J	ug/L	2500	12/15/16 11:40	
6010C Met	Sodium, Dissolved	13900	ug/L	1000	12/15/16 11:40	
6010C Met	Vanadium, Dissolved	1.3J	ug/L	15.0	12/15/16 11:40	
6010C Met	Zinc, Dissolved	4.0J	ug/L	20.0	12/15/16 11:40	
SM 2320B	Alkalinity, Total as CaCO3	136	mg/L	5.0	12/24/16 12:00	
SM 2540C	Total Dissolved Solids	191	mg/L	10.0	12/15/16 21:20	
EPA 300.0	Chloride	1.5	mg/L	1.2	12/20/16 19:33	
EPA 300.0	Nitrate as N	0.15	mg/L	0.10	12/20/16 19:33	H3
EPA 300.0	Sulfate	5.2	mg/L	1.2	12/20/16 19:33	
SM 5310C	Total Organic Carbon	0.47J	mg/L	1.0	12/17/16 05:48	
10373269006	EB121016					
RSK 175	Methane	1.2J	ug/L	10.0	12/16/16 15:26	
6010C Met	Calcium, Dissolved	78.6J	ug/L	500	12/15/16 11:42	
6010C Met	Iron, Dissolved	35.7J	ug/L	50.0	12/15/16 11:42	
6010C Met	Magnesium, Dissolved	8.9J	ug/L	500	12/15/16 11:42	
6010C Met	Manganese, Dissolved	0.37J	ug/L	5.0	12/15/16 11:42	
6010C Met	Sodium, Dissolved	817J	ug/L	1000	12/15/16 11:42	
EPA 8260B	Acetone	3.8J	ug/L	20.0	12/18/16 07:14	
SM 2540C	Total Dissolved Solids	10.0	mg/L	10.0	12/15/16 21:20	
EPA 300.0	Chloride	0.27J	mg/L	1.2	12/20/16 22:04	
EPA 300.0	Nitrate as N	0.062J	mg/L	0.10	12/20/16 22:04	H3
EPA 300.0	Sulfate	0.38J	mg/L	1.2	12/20/16 22:04	
10373269008	TB121016					
EPA 8260B	Acetone	2.6J	ug/L	20.0	12/18/16 06:26	
EPA 8260B	Methylene Chloride	0.32J	ug/L	4.0	12/18/16 06:26	
EPA 8260B	Naphthalene	0.63J	ug/L	4.0	12/18/16 06:26	B
EPA 8260B	Toluene	0.069J	ug/L	0.50	12/18/16 06:26	

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

8 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

- EB121016 (Lab ID: 10373269006)
- MW2D-GW-120916 (Lab ID: 10373269002)
- MW3D-GW-121016 (Lab ID: 10373269005)
- TB120916 (Lab ID: 10373269007)
- TB121016 (Lab ID: 10373269008)
- W20-GW-121016 (Lab ID: 10373269004)
- W26-GW-120916 (Lab ID: 10373269003)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 451946

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2474528)
 - Acrolein
- LCSD (Lab ID: 2474529)
 - Acrolein
- MS (Lab ID: 2475469)
 - Acrolein

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2474527)
 - trans-1,4-Dichloro-2-butene
- DUP (Lab ID: 2475470)
 - trans-1,4-Dichloro-2-butene
- LCS (Lab ID: 2474528)
 - trans-1,4-Dichloro-2-butene
- LCSD (Lab ID: 2474529)
 - trans-1,4-Dichloro-2-butene
- MS (Lab ID: 2475469)
 - trans-1,4-Dichloro-2-butene

QC Batch: 452216

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2475713)
 - Acrolein

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 17, 2017

QC Batch: 452216

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- MS (Lab ID: 2475714)
 - Acrolein
- MSD (Lab ID: 2475715)
 - Acrolein

QC Batch: 452283

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2476239)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- EB121016 (Lab ID: 10373269006)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- LCS (Lab ID: 2476240)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- LCSD (Lab ID: 2476670)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- MS (Lab ID: 2476241)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- MSD (Lab ID: 2476242)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- MW2D-GW-120916 (Lab ID: 10373269002)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- MW3D-GW-121016 (Lab ID: 10373269005)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- TB121016 (Lab ID: 10373269008)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- W20-GW-121016 (Lab ID: 10373269004)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- W26-GW-120916 (Lab ID: 10373269003)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 17, 2017

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 452283

B: Analyte was detected in the associated method blank.

- BLANK for HBN 452283 [MSV/3829 (Lab ID: 2476239)]
- Naphthalene

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 451946

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCSD (Lab ID: 2474529)
 - Acrolein
 - trans-1,4-Dichloro-2-butene

QC Batch: 452216

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2475713)
 - Acrolein

QC Batch: 452283

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2476240)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene
- LCSD (Lab ID: 2476670)
 - Bromomethane
 - trans-1,4-Dichloro-2-butene

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451946

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

QC Batch: 452216

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373467003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2475714)
 - Acrolein
- MSD (Lab ID: 2475715)

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 17, 2017

QC Batch: 452216

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373467003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- Acrolein

QC Batch: 452283

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373605001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2476241)
 - trans-1,4-Dichloro-2-butene
- MSD (Lab ID: 2476242)
 - trans-1,4-Dichloro-2-butene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2476242)
 - Bromomethane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 452992

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10372776001,10373269001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2479900)
 - Alkalinity, Total as CaCO₃
- MSD (Lab ID: 2479901)
 - Alkalinity, Total as CaCO₃
- MSD (Lab ID: 2479903)
 - Alkalinity, Total as CaCO₃

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H3: Sample was received or analysis requested beyond the recognized method holding time.

- EB121016 (Lab ID: 10373269006)
- MW1D-GW-120916 (Lab ID: 10373269001)
- MW2D-GW-120916 (Lab ID: 10373269002)
- MW3D-GW-121016 (Lab ID: 10373269005)
- W20-GW-121016 (Lab ID: 10373269004)
- W26-GW-120916 (Lab ID: 10373269003)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 451939

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373215001, 10373269001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2474511)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2474512)
 - Chloride
 - Nitrate as N
 - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: January 17, 2017

General Information:

6 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW1D-GW-120916 **Lab ID: 10373269001** Collected: 12/09/16 09:35 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	4.2J	ug/L	10.0	0.87	1		12/16/16 14:37	74-84-0	
Ethene	1.4J	ug/L	10.0	0.77	1		12/16/16 14:37	74-85-1	
Methane	8.8J	ug/L	10.0	0.49	1		12/16/16 14:37	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/15/16 08:04	12/15/16 11:12	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:12	7440-36-0	
Arsenic, Dissolved	5.0J	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:12	7440-38-2	
Barium, Dissolved	69.6	ug/L	10.0	0.20	1	12/15/16 08:04	12/15/16 11:12	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/15/16 08:04	12/15/16 11:12	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/15/16 08:04	12/15/16 11:12	7440-43-9	
Calcium, Dissolved	49700	ug/L	500	15.8	1	12/15/16 08:04	12/15/16 11:12	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/15/16 08:04	12/15/16 11:12	7440-47-3	
Cobalt, Dissolved	2.1J	ug/L	10.0	0.51	1	12/15/16 08:04	12/15/16 11:12	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/15/16 08:04	12/15/16 11:12	7440-50-8	
Iron, Dissolved	3080	ug/L	50.0	18.0	1	12/15/16 08:04	12/15/16 11:12	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/15/16 08:04	12/15/16 11:12	7439-92-1	
Magnesium, Dissolved	12400	ug/L	500	7.4	1	12/15/16 08:04	12/15/16 11:12	7439-95-4	
Manganese, Dissolved	717	ug/L	5.0	0.33	1	12/15/16 08:04	12/15/16 11:12	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/15/16 08:04	12/15/16 11:12	7440-02-0	
Potassium, Dissolved	3480	ug/L	2500	26.1	1	12/15/16 08:04	12/15/16 11:12	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/15/16 08:04	12/15/16 11:12	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/15/16 08:04	12/15/16 11:12	7440-22-4	
Sodium, Dissolved	13100	ug/L	1000	12.0	1	12/15/16 08:04	12/15/16 11:12	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/15/16 08:04	12/15/16 11:12	7440-28-0	
Vanadium, Dissolved	<0.39	ug/L	15.0	0.39	1	12/15/16 08:04	12/15/16 11:12	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/15/16 08:04	12/15/16 11:12	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/15/16 08:10	12/19/16 14:37	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/17/16 06:17	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/17/16 06:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/17/16 06:17	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/17/16 06:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/17/16 06:17	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/17/16 06:17	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/17/16 06:17	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/17/16 06:17	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/17/16 06:17	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/17/16 06:17	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/17/16 06:17	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/17/16 06:17	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/17/16 06:17	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/17/16 06:17	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW1D-GW-120916 Lab ID: 10373269001 Collected: 12/09/16 09:35 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/17/16 06:17	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/17/16 06:17	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/17/16 06:17	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/17/16 06:17	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/17/16 06:17	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/17/16 06:17	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/17/16 06:17	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/17/16 06:17	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/17/16 06:17	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/17/16 06:17	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/17/16 06:17	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/17/16 06:17	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/17/16 06:17	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/17/16 06:17	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/17/16 06:17	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/17/16 06:17	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/17/16 06:17	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/17/16 06:17	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/17/16 06:17	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/17/16 06:17	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/17/16 06:17	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/17/16 06:17	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/17/16 06:17	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/17/16 06:17	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/17/16 06:17	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/17/16 06:17	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/17/16 06:17	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/17/16 06:17	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/17/16 06:17	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/17/16 06:17	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/17/16 06:17	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/17/16 06:17	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/17/16 06:17	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/17/16 06:17	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/17/16 06:17	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/17/16 06:17	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/17/16 06:17	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/17/16 06:17	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/17/16 06:17	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/17/16 06:17	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/17/16 06:17	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/17/16 06:17	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/17/16 06:17	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/17/16 06:17	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/17/16 06:17	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/17/16 06:17	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW1D-GW-120916 **Lab ID: 10373269001** Collected: 12/09/16 09:35 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/17/16 06:17	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/17/16 06:17	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/17/16 06:17	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/17/16 06:17	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/17/16 06:17	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/17/16 06:17	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/17/16 06:17	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/17/16 06:17	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/17/16 06:17	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/17/16 06:17	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/17/16 06:17	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/17/16 06:17	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/17/16 06:17	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/17/16 06:17	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/17/16 06:17	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/17/16 06:17	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/17/16 06:17	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/17/16 06:17	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/17/16 06:17	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/17/16 06:17	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/17/16 06:17	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		12/17/16 06:17	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		12/17/16 06:17	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	195	mg/L	5.0	1.4	1		12/22/16 13:46		M1
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	229	mg/L	10.0	5.0	1		12/15/16 21:20		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/16/16 15:14	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	2.1	mg/L	1.2	0.10	1		12/20/16 17:14	16887-00-6	
Nitrate as N	<0.013	mg/L	0.10	0.013	1		12/20/16 17:14	14797-55-8	H3
Sulfate	2.1	mg/L	1.2	0.16	1		12/20/16 17:14	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.4	mg/L	1.0	0.20	1		12/17/16 04:51	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW2D-GW-120916 **Lab ID: 10373269002** Collected: 12/09/16 12:25 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	19.8	ug/L	10.0	0.87	1		12/16/16 14:54	74-84-0	
Ethene	4.5J	ug/L	10.0	0.77	1		12/16/16 14:54	74-85-1	
Methane	54.2	ug/L	10.0	0.49	1		12/16/16 14:54	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/15/16 08:04	12/15/16 11:25	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:25	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:25	7440-38-2	
Barium, Dissolved	86.4	ug/L	10.0	0.20	1	12/15/16 08:04	12/15/16 11:25	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/15/16 08:04	12/15/16 11:25	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/15/16 08:04	12/15/16 11:25	7440-43-9	
Calcium, Dissolved	34600	ug/L	500	15.8	1	12/15/16 08:04	12/15/16 11:25	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/15/16 08:04	12/15/16 11:25	7440-47-3	
Cobalt, Dissolved	1.2J	ug/L	10.0	0.51	1	12/15/16 08:04	12/15/16 11:25	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/15/16 08:04	12/15/16 11:25	7440-50-8	
Iron, Dissolved	1580	ug/L	50.0	18.0	1	12/15/16 08:04	12/15/16 11:25	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/15/16 08:04	12/15/16 11:25	7439-92-1	
Magnesium, Dissolved	10500	ug/L	500	7.4	1	12/15/16 08:04	12/15/16 11:25	7439-95-4	
Manganese, Dissolved	1440	ug/L	5.0	0.33	1	12/15/16 08:04	12/15/16 11:25	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/15/16 08:04	12/15/16 11:25	7440-02-0	
Potassium, Dissolved	5760	ug/L	2500	26.1	1	12/15/16 08:04	12/15/16 11:25	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/15/16 08:04	12/15/16 11:25	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/15/16 08:04	12/15/16 11:25	7440-22-4	
Sodium, Dissolved	18800	ug/L	1000	12.0	1	12/15/16 08:04	12/15/16 11:25	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/15/16 08:04	12/15/16 11:25	7440-28-0	
Vanadium, Dissolved	0.48J	ug/L	15.0	0.39	1	12/15/16 08:04	12/15/16 11:25	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/15/16 08:04	12/15/16 11:25	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/15/16 08:10	12/19/16 14:40	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:01	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/18/16 08:01	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:01	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:01	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/18/16 08:01	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:01	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:01	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/18/16 08:01	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/18/16 08:01	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/18/16 08:01	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/18/16 08:01	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/18/16 08:01	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/18/16 08:01	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/18/16 08:01	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW2D-GW-120916 Lab ID: 10373269002 Collected: 12/09/16 12:25 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/18/16 08:01	95-50-1	
1,2-Dichloroethane	0.11J	ug/L	0.50	0.072	1		12/18/16 08:01	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/18/16 08:01	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/18/16 08:01	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:01	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/18/16 08:01	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/18/16 08:01	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/18/16 08:01	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/18/16 08:01	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/18/16 08:01	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/18/16 08:01	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/18/16 08:01	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/18/16 08:01	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/18/16 08:01	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/18/16 08:01	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/18/16 08:01	108-10-1	
Acetone	3.9J	ug/L	20.0	0.64	1		12/18/16 08:01	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/18/16 08:01	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/18/16 08:01	107-13-1	
Benzene	0.69	ug/L	0.50	0.042	1		12/18/16 08:01	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/18/16 08:01	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/18/16 08:01	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/18/16 08:01	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/18/16 08:01	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/18/16 08:01	74-83-9	CL,L2
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/18/16 08:01	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/18/16 08:01	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/18/16 08:01	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/18/16 08:01	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/18/16 08:01	67-66-3	
Chloromethane	0.75J	ug/L	4.0	0.080	1		12/18/16 08:01	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/18/16 08:01	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/18/16 08:01	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/18/16 08:01	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/18/16 08:01	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/18/16 08:01	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/18/16 08:01	637-92-3	
Ethylbenzene	0.28J	ug/L	0.50	0.075	1		12/18/16 08:01	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/18/16 08:01	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/18/16 08:01	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/18/16 08:01	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/18/16 08:01	75-09-2	
Naphthalene	0.72J	ug/L	4.0	0.064	1		12/18/16 08:01	91-20-3	B
Styrene	<0.056	ug/L	0.50	0.056	1		12/18/16 08:01	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/18/16 08:01	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/18/16 08:01	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW2D-GW-120916 **Lab ID: 10373269002** Collected: 12/09/16 12:25 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	0.59	ug/L	0.50	0.059	1		12/18/16 08:01	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/18/16 08:01	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:01	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/18/16 08:01	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/18/16 08:01	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/18/16 08:01	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/18/16 08:01	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:01	10061-01-5	
m&p-Xylene	0.28J	ug/L	1.0	0.11	1		12/18/16 08:01	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/18/16 08:01	104-51-8	
n-Propylbenzene	0.18J	ug/L	0.50	0.049	1		12/18/16 08:01	103-65-1	
o-Xylene	0.32J	ug/L	0.50	0.044	1		12/18/16 08:01	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/18/16 08:01	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/18/16 08:01	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/18/16 08:01	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/18/16 08:01	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/18/16 08:01	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/18/16 08:01	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:01	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/18/16 08:01	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-125		1		12/18/16 08:01	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		12/18/16 08:01	2037-26-5	
4-Bromofluorobenzene (S)	95	%	75-125		1		12/18/16 08:01	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	158	mg/L	5.0	1.4	1		12/22/16 14:00		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	196	mg/L	10.0	5.0	1		12/15/16 21:20		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/16/16 15:14	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.7	mg/L	1.2	0.10	1		12/20/16 18:17	16887-00-6	
Nitrate as N	<0.013	mg/L	0.10	0.013	1		12/20/16 18:17	14797-55-8	H3
Sulfate	0.54J	mg/L	1.2	0.16	1		12/20/16 18:17	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	6.6	mg/L	1.0	0.20	1		12/17/16 05:05	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: W26-GW-120916 **Lab ID: 10373269003** Collected: 12/09/16 14:40 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		12/16/16 15:02	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/16/16 15:02	74-85-1	
Methane	1.2J	ug/L	10.0	0.49	1		12/16/16 15:02	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/15/16 08:04	12/15/16 11:28	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:28	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:28	7440-38-2	
Barium, Dissolved	6.2J	ug/L	10.0	0.20	1	12/15/16 08:04	12/15/16 11:28	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/15/16 08:04	12/15/16 11:28	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/15/16 08:04	12/15/16 11:28	7440-43-9	
Calcium, Dissolved	37900	ug/L	500	15.8	1	12/15/16 08:04	12/15/16 11:28	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/15/16 08:04	12/15/16 11:28	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/15/16 08:04	12/15/16 11:28	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/15/16 08:04	12/15/16 11:28	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	12/15/16 08:04	12/15/16 11:28	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/15/16 08:04	12/15/16 11:28	7439-92-1	
Magnesium, Dissolved	11200	ug/L	500	7.4	1	12/15/16 08:04	12/15/16 11:28	7439-95-4	
Manganese, Dissolved	0.83J	ug/L	5.0	0.33	1	12/15/16 08:04	12/15/16 11:28	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/15/16 08:04	12/15/16 11:28	7440-02-0	
Potassium, Dissolved	2120J	ug/L	2500	26.1	1	12/15/16 08:04	12/15/16 11:28	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/15/16 08:04	12/15/16 11:28	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/15/16 08:04	12/15/16 11:28	7440-22-4	
Sodium, Dissolved	13400	ug/L	1000	12.0	1	12/15/16 08:04	12/15/16 11:28	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/15/16 08:04	12/15/16 11:28	7440-28-0	
Vanadium, Dissolved	7.0J	ug/L	15.0	0.39	1	12/15/16 08:04	12/15/16 11:28	7440-62-2	
Zinc, Dissolved	128	ug/L	20.0	1.4	1	12/15/16 08:04	12/15/16 11:28	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/15/16 08:10	12/19/16 14:46	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:17	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/18/16 08:17	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:17	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/18/16 08:17	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:17	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:17	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/18/16 08:17	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/18/16 08:17	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/18/16 08:17	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/18/16 08:17	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/18/16 08:17	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/18/16 08:17	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/18/16 08:17	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: **W26-GW-120916** Lab ID: **10373269003** Collected: 12/09/16 14:40 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/18/16 08:17	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/18/16 08:17	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/18/16 08:17	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/18/16 08:17	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:17	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/18/16 08:17	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/18/16 08:17	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/18/16 08:17	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/18/16 08:17	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/18/16 08:17	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/18/16 08:17	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/18/16 08:17	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/18/16 08:17	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/18/16 08:17	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/18/16 08:17	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/18/16 08:17	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/18/16 08:17	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/18/16 08:17	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/18/16 08:17	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:17	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/18/16 08:17	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/18/16 08:17	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/18/16 08:17	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/18/16 08:17	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/18/16 08:17	74-83-9	CL,L2
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/18/16 08:17	75-15-0	
Carbon tetrachloride	22.5	ug/L	1.0	0.079	1		12/18/16 08:17	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/18/16 08:17	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/18/16 08:17	75-00-3	
Chloroform	1.5	ug/L	1.0	0.21	1		12/18/16 08:17	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/18/16 08:17	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/18/16 08:17	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/18/16 08:17	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/18/16 08:17	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/18/16 08:17	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/18/16 08:17	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/18/16 08:17	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/18/16 08:17	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/18/16 08:17	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/18/16 08:17	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/18/16 08:17	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/18/16 08:17	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/18/16 08:17	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/18/16 08:17	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/18/16 08:17	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/18/16 08:17	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: W26-GW-120916 **Lab ID: 10373269003** Collected: 12/09/16 14:40 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/18/16 08:17	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/18/16 08:17	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:17	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/18/16 08:17	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/18/16 08:17	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/18/16 08:17	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/18/16 08:17	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:17	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/18/16 08:17	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/18/16 08:17	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/18/16 08:17	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:17	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/18/16 08:17	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/18/16 08:17	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/18/16 08:17	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/18/16 08:17	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/18/16 08:17	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/18/16 08:17	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:17	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/18/16 08:17	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-125		1		12/18/16 08:17	17060-07-0	HS
Toluene-d8 (S)	97	%	75-125		1		12/18/16 08:17	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		12/18/16 08:17	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	142	mg/L	5.0	1.4	1		12/22/16 14:05		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	227	mg/L	10.0	5.0	1		12/15/16 21:20		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/16/16 15:15	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	4.2	mg/L	1.2	0.10	1		12/20/16 19:03	16887-00-6	
Nitrate as N	1.9	mg/L	0.10	0.013	1		12/20/16 19:03	14797-55-8	H3
Sulfate	8.8	mg/L	1.2	0.16	1		12/20/16 19:03	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	0.64J	mg/L	1.0	0.20	1		12/17/16 05:19	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: W20-GW-121016 **Lab ID: 10373269004** Collected: 12/10/16 11:45 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		12/16/16 15:10	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/16/16 15:10	74-85-1	
Methane	30.5	ug/L	10.0	0.49	1		12/16/16 15:10	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/15/16 08:04	12/15/16 11:37	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:37	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:37	7440-38-2	
Barium, Dissolved	16.6	ug/L	10.0	0.20	1	12/15/16 08:04	12/15/16 11:37	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/15/16 08:04	12/15/16 11:37	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/15/16 08:04	12/15/16 11:37	7440-43-9	
Calcium, Dissolved	41000	ug/L	500	15.8	1	12/15/16 08:04	12/15/16 11:37	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/15/16 08:04	12/15/16 11:37	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/15/16 08:04	12/15/16 11:37	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/15/16 08:04	12/15/16 11:37	7440-50-8	
Iron, Dissolved	1010	ug/L	50.0	18.0	1	12/15/16 08:04	12/15/16 11:37	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/15/16 08:04	12/15/16 11:37	7439-92-1	
Magnesium, Dissolved	14200	ug/L	500	7.4	1	12/15/16 08:04	12/15/16 11:37	7439-95-4	
Manganese, Dissolved	47.0	ug/L	5.0	0.33	1	12/15/16 08:04	12/15/16 11:37	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/15/16 08:04	12/15/16 11:37	7440-02-0	
Potassium, Dissolved	2170J	ug/L	2500	26.1	1	12/15/16 08:04	12/15/16 11:37	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/15/16 08:04	12/15/16 11:37	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/15/16 08:04	12/15/16 11:37	7440-22-4	
Sodium, Dissolved	10900	ug/L	1000	12.0	1	12/15/16 08:04	12/15/16 11:37	7440-23-5	
Thallium, Dissolved	3.8J	ug/L	20.0	3.8	1	12/15/16 08:04	12/15/16 11:37	7440-28-0	
Vanadium, Dissolved	3.7J	ug/L	15.0	0.39	1	12/15/16 08:04	12/15/16 11:37	7440-62-2	
Zinc, Dissolved	3.6J	ug/L	20.0	1.4	1	12/15/16 08:04	12/15/16 11:37	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/15/16 08:10	12/19/16 14:53	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:33	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/18/16 08:33	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:33	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:33	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/18/16 08:33	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:33	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:33	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/18/16 08:33	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/18/16 08:33	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/18/16 08:33	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/18/16 08:33	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/18/16 08:33	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/18/16 08:33	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/18/16 08:33	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: **W20-GW-121016** Lab ID: **10373269004** Collected: 12/10/16 11:45 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/18/16 08:33	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/18/16 08:33	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/18/16 08:33	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/18/16 08:33	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:33	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/18/16 08:33	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/18/16 08:33	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/18/16 08:33	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/18/16 08:33	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/18/16 08:33	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/18/16 08:33	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/18/16 08:33	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/18/16 08:33	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/18/16 08:33	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/18/16 08:33	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/18/16 08:33	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/18/16 08:33	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/18/16 08:33	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/18/16 08:33	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:33	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/18/16 08:33	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/18/16 08:33	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/18/16 08:33	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/18/16 08:33	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/18/16 08:33	74-83-9	CL,L2
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/18/16 08:33	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/18/16 08:33	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/18/16 08:33	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/18/16 08:33	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/18/16 08:33	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/18/16 08:33	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/18/16 08:33	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/18/16 08:33	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/18/16 08:33	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/18/16 08:33	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/18/16 08:33	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/18/16 08:33	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/18/16 08:33	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/18/16 08:33	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/18/16 08:33	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/18/16 08:33	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/18/16 08:33	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/18/16 08:33	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/18/16 08:33	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/18/16 08:33	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/18/16 08:33	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: W20-GW-121016 **Lab ID: 10373269004** Collected: 12/10/16 11:45 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/18/16 08:33	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/18/16 08:33	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:33	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/18/16 08:33	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/18/16 08:33	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/18/16 08:33	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/18/16 08:33	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:33	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/18/16 08:33	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/18/16 08:33	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/18/16 08:33	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:33	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/18/16 08:33	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/18/16 08:33	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/18/16 08:33	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/18/16 08:33	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/18/16 08:33	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/18/16 08:33	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:33	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/18/16 08:33	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-125		1		12/18/16 08:33	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/18/16 08:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		12/18/16 08:33	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	138	mg/L	5.0	1.4	1		12/22/16 14:09		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	244	mg/L	10.0	5.0	1		12/15/16 21:20		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	1.5	mg/L	0.20	0.050	10		12/16/16 15:16	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	2.4	mg/L	1.2	0.10	1		12/20/16 19:18	16887-00-6	
Nitrate as N	4.7	mg/L	0.10	0.013	1		12/20/16 19:18	14797-55-8	H3
Sulfate	18.2	mg/L	1.2	0.16	1		12/20/16 19:18	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	0.79J	mg/L	1.0	0.20	1		12/17/16 05:34	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: **MW3D-GW-121016** Lab ID: **10373269005** Collected: 12/10/16 09:05 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		12/16/16 15:18	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/16/16 15:18	74-85-1	
Methane	1.0J	ug/L	10.0	0.49	1		12/16/16 15:18	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	77.4J	ug/L	200	13.5	1	12/15/16 08:04	12/15/16 11:40	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:40	7440-36-0	
Arsenic, Dissolved	2.5J	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:40	7440-38-2	
Barium, Dissolved	43.3	ug/L	10.0	0.20	1	12/15/16 08:04	12/15/16 11:40	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/15/16 08:04	12/15/16 11:40	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/15/16 08:04	12/15/16 11:40	7440-43-9	
Calcium, Dissolved	31400	ug/L	500	15.8	1	12/15/16 08:04	12/15/16 11:40	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/15/16 08:04	12/15/16 11:40	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/15/16 08:04	12/15/16 11:40	7440-48-4	
Copper, Dissolved	0.97J	ug/L	10.0	0.89	1	12/15/16 08:04	12/15/16 11:40	7440-50-8	
Iron, Dissolved	66.2	ug/L	50.0	18.0	1	12/15/16 08:04	12/15/16 11:40	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/15/16 08:04	12/15/16 11:40	7439-92-1	
Magnesium, Dissolved	9400	ug/L	500	7.4	1	12/15/16 08:04	12/15/16 11:40	7439-95-4	
Manganese, Dissolved	34.6	ug/L	5.0	0.33	1	12/15/16 08:04	12/15/16 11:40	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/15/16 08:04	12/15/16 11:40	7440-02-0	
Potassium, Dissolved	1130J	ug/L	2500	26.1	1	12/15/16 08:04	12/15/16 11:40	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/15/16 08:04	12/15/16 11:40	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/15/16 08:04	12/15/16 11:40	7440-22-4	
Sodium, Dissolved	13900	ug/L	1000	12.0	1	12/15/16 08:04	12/15/16 11:40	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/15/16 08:04	12/15/16 11:40	7440-28-0	
Vanadium, Dissolved	1.3J	ug/L	15.0	0.39	1	12/15/16 08:04	12/15/16 11:40	7440-62-2	
Zinc, Dissolved	4.0J	ug/L	20.0	1.4	1	12/15/16 08:04	12/15/16 11:40	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/15/16 08:10	12/19/16 14:56	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:48	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/18/16 08:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:48	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 08:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/18/16 08:48	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:48	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:48	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/18/16 08:48	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/18/16 08:48	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/18/16 08:48	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/18/16 08:48	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/18/16 08:48	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/18/16 08:48	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/18/16 08:48	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW3D-GW-121016 **Lab ID: 10373269005** Collected: 12/10/16 09:05 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/18/16 08:48	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/18/16 08:48	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/18/16 08:48	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/18/16 08:48	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:48	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/18/16 08:48	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/18/16 08:48	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/18/16 08:48	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/18/16 08:48	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/18/16 08:48	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/18/16 08:48	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/18/16 08:48	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/18/16 08:48	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/18/16 08:48	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/18/16 08:48	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/18/16 08:48	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/18/16 08:48	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/18/16 08:48	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/18/16 08:48	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/18/16 08:48	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/18/16 08:48	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/18/16 08:48	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/18/16 08:48	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/18/16 08:48	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/18/16 08:48	74-83-9	CL,L2
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/18/16 08:48	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/18/16 08:48	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/18/16 08:48	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/18/16 08:48	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/18/16 08:48	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/18/16 08:48	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/18/16 08:48	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/18/16 08:48	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/18/16 08:48	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/18/16 08:48	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/18/16 08:48	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/18/16 08:48	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/18/16 08:48	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/18/16 08:48	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/18/16 08:48	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/18/16 08:48	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/18/16 08:48	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/18/16 08:48	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/18/16 08:48	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/18/16 08:48	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/18/16 08:48	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: MW3D-GW-121016 **Lab ID: 10373269005** Collected: 12/10/16 09:05 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		12/18/16 08:48	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/18/16 08:48	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/18/16 08:48	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/18/16 08:48	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/18/16 08:48	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/18/16 08:48	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/18/16 08:48	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/18/16 08:48	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/18/16 08:48	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/18/16 08:48	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/18/16 08:48	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:48	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/18/16 08:48	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/18/16 08:48	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/18/16 08:48	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/18/16 08:48	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/18/16 08:48	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/18/16 08:48	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/18/16 08:48	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/18/16 08:48	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-125		1		12/18/16 08:48	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		12/18/16 08:48	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		12/18/16 08:48	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	136	mg/L	5.0	1.4	1		12/24/16 12:00		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	191	mg/L	10.0	5.0	1		12/15/16 21:20		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/16/16 15:17	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.5	mg/L	1.2	0.10	1		12/20/16 19:33	16887-00-6	
Nitrate as N	0.15	mg/L	0.10	0.013	1		12/20/16 19:33	14797-55-8	H3
Sulfate	5.2	mg/L	1.2	0.16	1		12/20/16 19:33	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	0.47J	mg/L	1.0	0.20	1		12/17/16 05:48	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: EB121016 **Lab ID: 10373269006** Collected: 12/10/16 13:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		12/16/16 15:26	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		12/16/16 15:26	74-85-1	
Methane	1.2J	ug/L	10.0	0.49	1		12/16/16 15:26	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	12/15/16 08:04	12/15/16 11:42	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:42	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	12/15/16 08:04	12/15/16 11:42	7440-38-2	
Barium, Dissolved	<0.20	ug/L	10.0	0.20	1	12/15/16 08:04	12/15/16 11:42	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	12/15/16 08:04	12/15/16 11:42	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	12/15/16 08:04	12/15/16 11:42	7440-43-9	
Calcium, Dissolved	78.6J	ug/L	500	15.8	1	12/15/16 08:04	12/15/16 11:42	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	12/15/16 08:04	12/15/16 11:42	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	12/15/16 08:04	12/15/16 11:42	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	12/15/16 08:04	12/15/16 11:42	7440-50-8	
Iron, Dissolved	35.7J	ug/L	50.0	18.0	1	12/15/16 08:04	12/15/16 11:42	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	12/15/16 08:04	12/15/16 11:42	7439-92-1	
Magnesium, Dissolved	8.9J	ug/L	500	7.4	1	12/15/16 08:04	12/15/16 11:42	7439-95-4	
Manganese, Dissolved	0.37J	ug/L	5.0	0.33	1	12/15/16 08:04	12/15/16 11:42	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	12/15/16 08:04	12/15/16 11:42	7440-02-0	
Potassium, Dissolved	<26.1	ug/L	2500	26.1	1	12/15/16 08:04	12/15/16 11:42	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	12/15/16 08:04	12/15/16 11:42	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	12/15/16 08:04	12/15/16 11:42	7440-22-4	
Sodium, Dissolved	817J	ug/L	1000	12.0	1	12/15/16 08:04	12/15/16 11:42	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	12/15/16 08:04	12/15/16 11:42	7440-28-0	
Vanadium, Dissolved	<0.39	ug/L	15.0	0.39	1	12/15/16 08:04	12/15/16 11:42	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	12/15/16 08:04	12/15/16 11:42	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	12/15/16 08:10	12/19/16 14:58	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 07:14	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/18/16 07:14	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 07:14	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 07:14	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/18/16 07:14	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 07:14	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/18/16 07:14	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/18/16 07:14	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/18/16 07:14	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/18/16 07:14	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/18/16 07:14	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/18/16 07:14	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/18/16 07:14	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/18/16 07:14	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: **EB121016** Lab ID: **10373269006** Collected: 12/10/16 13:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/18/16 07:14	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/18/16 07:14	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/18/16 07:14	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/18/16 07:14	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/18/16 07:14	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/18/16 07:14	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/18/16 07:14	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/18/16 07:14	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/18/16 07:14	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/18/16 07:14	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/18/16 07:14	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/18/16 07:14	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/18/16 07:14	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/18/16 07:14	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/18/16 07:14	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/18/16 07:14	108-10-1	
Acetone	3.8J	ug/L	20.0	0.64	1		12/18/16 07:14	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/18/16 07:14	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/18/16 07:14	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/18/16 07:14	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/18/16 07:14	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/18/16 07:14	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/18/16 07:14	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/18/16 07:14	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/18/16 07:14	74-83-9	CL,L2
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/18/16 07:14	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/18/16 07:14	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/18/16 07:14	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/18/16 07:14	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/18/16 07:14	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/18/16 07:14	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/18/16 07:14	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/18/16 07:14	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/18/16 07:14	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/18/16 07:14	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/18/16 07:14	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/18/16 07:14	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/18/16 07:14	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/18/16 07:14	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/18/16 07:14	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/18/16 07:14	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/18/16 07:14	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/18/16 07:14	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/18/16 07:14	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/18/16 07:14	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/18/16 07:14	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: EB121016 **Lab ID: 10373269006** Collected: 12/10/16 13:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		12/18/16 07:14	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/18/16 07:14	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/18/16 07:14	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/18/16 07:14	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/18/16 07:14	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/18/16 07:14	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/18/16 07:14	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/18/16 07:14	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/18/16 07:14	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/18/16 07:14	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/18/16 07:14	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/18/16 07:14	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/18/16 07:14	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/18/16 07:14	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/18/16 07:14	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/18/16 07:14	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/18/16 07:14	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/18/16 07:14	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/18/16 07:14	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/18/16 07:14	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	86	%	75-125		1		12/18/16 07:14	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		12/18/16 07:14	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/18/16 07:14	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	<1.4	mg/L	5.0	1.4	1		12/24/16 14:50		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	10.0	mg/L	10.0	5.0	1		12/15/16 21:20		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		12/16/16 15:17	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	0.27J	mg/L	1.2	0.10	1		12/20/16 22:04	16887-00-6	
Nitrate as N	0.062J	mg/L	0.10	0.013	1		12/20/16 22:04	14797-55-8	H3
Sulfate	0.38J	mg/L	1.2	0.16	1		12/20/16 22:04	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	<0.20	mg/L	1.0	0.20	1		12/17/16 06:02	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: TB120916 **Lab ID: 10373269007** Collected: 12/09/16 09:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/15/16 15:34	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/15/16 15:34	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/15/16 15:34	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/15/16 15:34	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/15/16 15:34	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/15/16 15:34	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/15/16 15:34	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/15/16 15:34	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/15/16 15:34	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/15/16 15:34	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/15/16 15:34	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/15/16 15:34	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/15/16 15:34	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/15/16 15:34	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/15/16 15:34	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/15/16 15:34	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/15/16 15:34	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/15/16 15:34	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/15/16 15:34	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/15/16 15:34	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/15/16 15:34	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/15/16 15:34	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/15/16 15:34	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/15/16 15:34	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/15/16 15:34	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/15/16 15:34	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/15/16 15:34	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/15/16 15:34	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/15/16 15:34	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/15/16 15:34	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/15/16 15:34	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/15/16 15:34	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/15/16 15:34	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/15/16 15:34	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/15/16 15:34	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/15/16 15:34	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/15/16 15:34	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/15/16 15:34	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/15/16 15:34	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/15/16 15:34	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/15/16 15:34	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/15/16 15:34	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/15/16 15:34	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/15/16 15:34	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/15/16 15:34	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/15/16 15:34	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: TB120916 **Lab ID: 10373269007** Collected: 12/09/16 09:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/15/16 15:34	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/15/16 15:34	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/15/16 15:34	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/15/16 15:34	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/15/16 15:34	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/15/16 15:34	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/15/16 15:34	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/15/16 15:34	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/15/16 15:34	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/15/16 15:34	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/15/16 15:34	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/15/16 15:34	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/15/16 15:34	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/15/16 15:34	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/15/16 15:34	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/15/16 15:34	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/15/16 15:34	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/15/16 15:34	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/15/16 15:34	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/15/16 15:34	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/15/16 15:34	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/15/16 15:34	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/15/16 15:34	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/15/16 15:34	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/15/16 15:34	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/15/16 15:34	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/15/16 15:34	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/15/16 15:34	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/15/16 15:34	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/15/16 15:34	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/15/16 15:34	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/15/16 15:34	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/15/16 15:34	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/15/16 15:34	110-57-6	L2
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/15/16 15:34	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		12/15/16 15:34	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/15/16 15:34	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: TB121016 **Lab ID: 10373269008** Collected: 12/10/16 09:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 06:26	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/18/16 06:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 06:26	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/18/16 06:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/18/16 06:26	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/18/16 06:26	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/18/16 06:26	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/18/16 06:26	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/18/16 06:26	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/18/16 06:26	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/18/16 06:26	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/18/16 06:26	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/18/16 06:26	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/18/16 06:26	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/18/16 06:26	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		12/18/16 06:26	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/18/16 06:26	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/18/16 06:26	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/18/16 06:26	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/18/16 06:26	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/18/16 06:26	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/18/16 06:26	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/18/16 06:26	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/18/16 06:26	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/18/16 06:26	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/18/16 06:26	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/18/16 06:26	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/18/16 06:26	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/18/16 06:26	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/18/16 06:26	108-10-1	
Acetone	2.6J	ug/L	20.0	0.64	1		12/18/16 06:26	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/18/16 06:26	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/18/16 06:26	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/18/16 06:26	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/18/16 06:26	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/18/16 06:26	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/18/16 06:26	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/18/16 06:26	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/18/16 06:26	74-83-9	CL,L2
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/18/16 06:26	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		12/18/16 06:26	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/18/16 06:26	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/18/16 06:26	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/18/16 06:26	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/18/16 06:26	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/18/16 06:26	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Sample: TB121016 **Lab ID: 10373269008** Collected: 12/10/16 09:00 Received: 12/14/16 10:40 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/18/16 06:26	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/18/16 06:26	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/18/16 06:26	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/18/16 06:26	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/18/16 06:26	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/18/16 06:26	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/18/16 06:26	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/18/16 06:26	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/18/16 06:26	1634-04-4	
Methylene Chloride	0.32J	ug/L	4.0	0.097	1		12/18/16 06:26	75-09-2	
Naphthalene	0.63J	ug/L	4.0	0.064	1		12/18/16 06:26	91-20-3	B
Styrene	<0.056	ug/L	0.50	0.056	1		12/18/16 06:26	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/18/16 06:26	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/18/16 06:26	109-99-9	
Toluene	0.069J	ug/L	0.50	0.059	1		12/18/16 06:26	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/18/16 06:26	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/18/16 06:26	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/18/16 06:26	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/18/16 06:26	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/18/16 06:26	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/18/16 06:26	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/18/16 06:26	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/18/16 06:26	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/18/16 06:26	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/18/16 06:26	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/18/16 06:26	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/18/16 06:26	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/18/16 06:26	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/18/16 06:26	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/18/16 06:26	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/18/16 06:26	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/18/16 06:26	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/18/16 06:26	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/18/16 06:26	110-57-6	CL,L2
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-125		1		12/18/16 06:26	17060-07-0	HS
Toluene-d8 (S)	99	%	75-125		1		12/18/16 06:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/18/16 06:26	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 452143 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 2475377 Matrix: Water
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	12/16/16 14:27	
Ethene	ug/L	<0.77	10.0	0.77	12/16/16 14:27	
Methane	ug/L	1.6J	10.0	0.49	12/16/16 14:27	

LABORATORY CONTROL SAMPLE & LCSD: 2475378

Parameter	Units	2475379								
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	102	113	90	100	85-115	10	20	
Ethene	ug/L	106	96.8	106	91	100	85-115	9	20	
Methane	ug/L	60.7	55.0	60.2	91	99	85-115	9	20	

SAMPLE DUPLICATE: 2476590

Parameter	Units	10373269001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	4.2J	4.5J		20	
Ethene	ug/L	1.4J	1.4J		20	
Methane	ug/L	8.8J	9.2J		20	

SAMPLE DUPLICATE: 2476591

Parameter	Units	92322991003 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	198	220	11	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

QC Batch: 451898

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 2474348

Matrix: Water

Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	12/19/16 14:31	

LABORATORY CONTROL SAMPLE: 2474349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474350 2474351

Parameter	Units	2474350		2474351		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10373269002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury, Dissolved	ug/L	<0.031	5	5	4.5	4.6	90	92	80-120	2	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 451894 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 2474332 Matrix: Water
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	12/15/16 11:04	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	12/15/16 11:04	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	12/15/16 11:04	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	12/15/16 11:04	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	12/15/16 11:04	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	12/15/16 11:04	
Calcium, Dissolved	ug/L	<15.8	500	15.8	12/15/16 11:04	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	12/15/16 11:04	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	12/15/16 11:04	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	12/15/16 11:04	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	12/15/16 11:04	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	12/15/16 11:04	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	12/15/16 11:04	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	12/15/16 11:04	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	12/15/16 11:04	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	12/15/16 11:04	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	12/15/16 11:04	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	12/15/16 11:04	
Sodium, Dissolved	ug/L	32.3J	1000	12.0	12/15/16 11:04	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	12/15/16 11:04	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	12/15/16 11:04	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	12/15/16 11:04	

LABORATORY CONTROL SAMPLE: 2474333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20100	101	80-120	
Antimony, Dissolved	ug/L	1000	954	95	80-120	
Arsenic, Dissolved	ug/L	1000	973	97	80-120	
Barium, Dissolved	ug/L	1000	990	99	80-120	
Beryllium, Dissolved	ug/L	1000	977	98	80-120	
Cadmium, Dissolved	ug/L	1000	973	97	80-120	
Calcium, Dissolved	ug/L	20000	19600	98	80-120	
Chromium, Dissolved	ug/L	1000	944	94	80-120	
Cobalt, Dissolved	ug/L	1000	973	97	80-120	
Copper, Dissolved	ug/L	1000	959	96	80-120	
Iron, Dissolved	ug/L	20000	19100	96	80-120	
Lead, Dissolved	ug/L	1000	976	98	80-120	
Magnesium, Dissolved	ug/L	20000	19600	98	80-120	
Manganese, Dissolved	ug/L	1000	962	96	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE: 2474333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	975	98	80-120	
Potassium, Dissolved	ug/L	20000	19000	95	80-120	
Selenium, Dissolved	ug/L	1000	1010	101	80-120	
Silver, Dissolved	ug/L	500	480	96	80-120	
Sodium, Dissolved	ug/L	20000	18700	93	80-120	
Thallium, Dissolved	ug/L	1000	925	92	80-120	
Vanadium, Dissolved	ug/L	1000	971	97	80-120	
Zinc, Dissolved	ug/L	1000	998	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474334 2474335

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10373269001 Result	Spike Conc.	Spike Conc.	MSD Result							
Aluminum, Dissolved	ug/L	<13.5	20000	20000	20200	20600	101	103	75-125	2	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	962	997	96	100	75-125	4	20	
Arsenic, Dissolved	ug/L	5.0J	1000	1000	972	1010	97	100	75-125	4	20	
Barium, Dissolved	ug/L	69.6	1000	1000	1040	1050	97	98	75-125	1	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	975	1010	97	101	75-125	4	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	965	1000	96	100	75-125	4	20	
Calcium, Dissolved	ug/L	49700	20000	20000	67900	69200	91	97	75-125	2	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	931	943	93	94	75-125	1	20	
Cobalt, Dissolved	ug/L	2.1J	1000	1000	949	960	95	96	75-125	1	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	956	976	96	98	75-125	2	20	
Iron, Dissolved	ug/L	3080	20000	20000	21700	22000	93	94	75-125	1	20	
Lead, Dissolved	ug/L	<1.9	1000	1000	957	975	96	97	75-125	2	20	
Magnesium, Dissolved	ug/L	12400	20000	20000	31600	32800	96	102	75-125	4	20	
Manganese, Dissolved	ug/L	717	1000	1000	1640	1660	92	94	75-125	1	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	948	960	95	96	75-125	1	20	
Potassium, Dissolved	ug/L	3480	20000	20000	22900	23200	97	99	75-125	2	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	999	1130	100	113	75-125	13	20	
Silver, Dissolved	ug/L	<0.28	500	500	477	489	95	98	75-125	3	20	
Sodium, Dissolved	ug/L	13100	20000	20000	31500	32000	92	95	75-125	2	20	
Thallium, Dissolved	ug/L	<3.8	1000	1000	902	929	90	93	75-125	3	20	
Vanadium, Dissolved	ug/L	<0.39	1000	1000	966	973	97	97	75-125	1	20	
Zinc, Dissolved	ug/L	<1.4	1000	1000	968	1010	97	101	75-125	4	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 451946 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10373269007

METHOD BLANK: 2474527 Matrix: Water
Associated Lab Samples: 10373269007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/15/16 14:47	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/15/16 14:47	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/15/16 14:47	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/15/16 14:47	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/15/16 14:47	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/15/16 14:47	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/15/16 14:47	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/15/16 14:47	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/15/16 14:47	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/15/16 14:47	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/15/16 14:47	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/15/16 14:47	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/15/16 14:47	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/15/16 14:47	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/15/16 14:47	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/15/16 14:47	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/15/16 14:47	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/15/16 14:47	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/15/16 14:47	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/15/16 14:47	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/15/16 14:47	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/15/16 14:47	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/15/16 14:47	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/15/16 14:47	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/15/16 14:47	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/15/16 14:47	
Acetone	ug/L	<0.64	20.0	0.64	12/15/16 14:47	
Acrolein	ug/L	<2.1	10.0	2.1	12/15/16 14:47	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/15/16 14:47	
Benzene	ug/L	<0.042	0.50	0.042	12/15/16 14:47	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/15/16 14:47	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/15/16 14:47	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/15/16 14:47	
Bromoform	ug/L	<0.11	4.0	0.11	12/15/16 14:47	
Bromomethane	ug/L	<0.20	4.0	0.20	12/15/16 14:47	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/15/16 14:47	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/15/16 14:47	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

METHOD BLANK: 2474527 Matrix: Water
Associated Lab Samples: 10373269007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/15/16 14:47	
Chloroethane	ug/L	<0.12	1.0	0.12	12/15/16 14:47	
Chloroform	ug/L	<0.21	1.0	0.21	12/15/16 14:47	
Chloromethane	ug/L	<0.080	4.0	0.080	12/15/16 14:47	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/15/16 14:47	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/15/16 14:47	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/15/16 14:47	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/15/16 14:47	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/15/16 14:47	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/15/16 14:47	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/15/16 14:47	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/15/16 14:47	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/15/16 14:47	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/15/16 14:47	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/15/16 14:47	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/15/16 14:47	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/15/16 14:47	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/15/16 14:47	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/15/16 14:47	
Naphthalene	ug/L	0.71J	4.0	0.064	12/15/16 14:47	
o-Xylene	ug/L	<0.044	0.50	0.044	12/15/16 14:47	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/15/16 14:47	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/15/16 14:47	
Styrene	ug/L	<0.056	0.50	0.056	12/15/16 14:47	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/15/16 14:47	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/15/16 14:47	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/15/16 14:47	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/15/16 14:47	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/15/16 14:47	
Toluene	ug/L	<0.059	0.50	0.059	12/15/16 14:47	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/15/16 14:47	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/15/16 14:47	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/15/16 14:47	CL
Trichloroethene	ug/L	<0.044	0.40	0.044	12/15/16 14:47	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/15/16 14:47	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/15/16 14:47	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/15/16 14:47	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/15/16 14:47	
1,2-Dichloroethane-d4 (S)	%	95	75-125		12/15/16 14:47	
4-Bromofluorobenzene (S)	%	100	75-125		12/15/16 14:47	
Toluene-d8 (S)	%	101	75-125		12/15/16 14:47	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE & LCSD: 2474528		2474529									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.7	20.1	103	101	75-125	3	30		
1,1,1-Trichloroethane	ug/L	20	19.7	18.5	98	93	74-125	6	30		
1,1,2,2-Tetrachloroethane	ug/L	20	21.4	21.4	107	107	67-131	0	30		
1,1,2-Trichloroethane	ug/L	20	19.8	19.3	99	97	75-125	2	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	18.2	97	91	75-125	7	30		
1,1-Dichloroethane	ug/L	20	18.8	17.6	94	88	74-125	7	30		
1,1-Dichloroethene	ug/L	20	18.5	17.7	92	89	74-125	4	30		
1,1-Dichloropropene	ug/L	20	19.1	17.2	96	86	74-125	11	30		
1,2,3-Trichlorobenzene	ug/L	20	20.7	20.6	103	103	63-131	0	30		
1,2,3-Trichloropropane	ug/L	20	21.8	21.1	109	106	73-125	3	30		
1,2,4-Trichlorobenzene	ug/L	20	20.8	20.2	104	101	66-126	3	30		
1,2,4-Trimethylbenzene	ug/L	20	22.3	20.9	112	105	74-129	7	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.6	49.7	91	99	54-129	9	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.3	20.6	107	103	75-125	4	30		
1,2-Dichlorobenzene	ug/L	20	20.9	19.3	105	96	75-125	8	30		
1,2-Dichloroethane	ug/L	20	16.8	16.4	84	82	75-125	3	30		
1,2-Dichloroethene (Total)	ug/L	40	38.2	35.1	96	88	75-125	8	30		
1,2-Dichloropropane	ug/L	20	19.0	17.9	95	90	75-125	6	30		
1,3,5-Trimethylbenzene	ug/L	20	22.4	20.8	112	104	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	20.7	19.3	103	97	75-125	7	30		
1,3-Dichloropropane	ug/L	20	19.5	18.9	98	95	69-125	3	30		
1,4-Dichlorobenzene	ug/L	20	20.1	18.9	101	94	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	378	379	94	95	70-130	0	30		
2,2,4-Trimethylpentane	ug/L	20	20.4	18.3	102	91	67-138	11	30		
2,2-Dichloropropane	ug/L	20	21.0	19.7	105	98	69-125	7	30		
2-Butanone (MEK)	ug/L	100	84.3	97.9	84	98	48-145	15	30		
2-Chlorotoluene	ug/L	20	20.7	19.0	104	95	74-125	9	30		
2-Hexanone	ug/L	100	101	113	101	113	63-135	11	30		
4-Chlorotoluene	ug/L	20	21.3	19.6	106	98	73-125	8	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.2	109	98	109	53-138	10	30		
Acetone	ug/L	100	92.1	89.4	92	89	70-142	3	30		
Acrolein	ug/L	200	281	321	140	160	44-150	13	30	CH,L0	
Acrylonitrile	ug/L	200	188	204	94	102	68-125	8	30		
Benzene	ug/L	20	19.4	17.9	97	89	65-125	8	30		
Bromobenzene	ug/L	20	20.8	19.6	104	98	75-125	6	30		
Bromochloromethane	ug/L	20	19.6	18.9	98	94	75-125	4	30		
Bromodichloromethane	ug/L	20	19.2	18.5	96	92	73-125	4	30		
Bromoform	ug/L	20	17.3	16.8	86	84	69-125	3	30		
Bromomethane	ug/L	20	13.8	15.8	69	79	40-136	13	30		
Carbon disulfide	ug/L	20	18.5	17.2	92	86	36-150	7	30		
Carbon tetrachloride	ug/L	20	19.6	19.0	98	95	70-125	3	30		
Chlorobenzene	ug/L	20	19.7	18.6	98	93	75-125	6	30		
Chloroethane	ug/L	20	18.2	17.7	91	89	67-141	3	30		
Chloroform	ug/L	20	17.9	16.7	89	84	75-125	7	30		
Chloromethane	ug/L	20	18.5	18.0	92	90	50-150	3	30		
cis-1,2-Dichloroethene	ug/L	20	18.8	17.6	94	88	75-125	7	30		
cis-1,3-Dichloropropene	ug/L	20	20.2	19.4	101	97	75-125	4	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE & LCSD: 2474528		2474529								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	18.7	98	93	75-125	5	30	
Dibromomethane	ug/L	20	19.7	19.8	98	99	75-129	1	30	
Dichlorodifluoromethane	ug/L	20	17.2	17.0	86	85	59-135	1	30	
Dichlorofluoromethane	ug/L	20	18.4	17.4	92	87	74-130	6	30	
Diisopropyl ether	ug/L	20	18.0	17.3	90	86	71-125	4	30	
Ethyl-tert-butyl ether	ug/L	20	18.8	17.9	94	90	70-130	5	30	
Ethylbenzene	ug/L	20	19.3	18.1	97	90	75-125	7	30	
Hexachloro-1,3-butadiene	ug/L	20	20.8	21.8	104	109	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	21.7	20.2	109	101	71-136	7	30	
m&p-Xylene	ug/L	40	41.9	39.2	105	98	75-125	7	30	
Methyl-tert-butyl ether	ug/L	20	18.3	18.1	91	91	73-127	1	30	
Methylene Chloride	ug/L	20	18.7	17.3	93	86	68-128	8	30	
n-Butylbenzene	ug/L	20	22.1	21.0	110	105	70-126	5	30	
n-Propylbenzene	ug/L	20	21.1	19.8	105	99	67-131	6	30	
Naphthalene	ug/L	20	17.7	18.9	88	95	52-134	7	30	
o-Xylene	ug/L	20	21.5	20.4	108	102	75-125	6	30	
p-Isopropyltoluene	ug/L	20	22.9	21.4	114	107	74-125	7	30	
sec-Butylbenzene	ug/L	20	22.6	20.7	113	103	69-134	9	30	
Styrene	ug/L	20	21.4	20.0	107	100	75-125	7	30	
tert-Amylmethyl ether	ug/L	20	18.7	18.0	94	90	70-130	4	30	
tert-Butyl Alcohol	ug/L	200	200	210	100	105	66-128	5	30	
tert-Butylbenzene	ug/L	20	21.1	19.2	105	96	71-128	9	30	
Tetrachloroethene	ug/L	20	21.7	19.4	108	97	74-125	11	30	
Tetrahydrofuran	ug/L	200	198	188	99	94	64-142	5	30	
Toluene	ug/L	20	20.1	18.1	100	90	75-125	10	30	
trans-1,2-Dichloroethene	ug/L	20	19.4	17.6	97	88	73-125	10	30	
trans-1,3-Dichloropropene	ug/L	20	20.5	20.0	102	100	75-125	2	30	
trans-1,4-Dichloro-2-butene	ug/L	50	29.8	24.8	60	50	54-133	18	30	CL,L0
Trichloroethene	ug/L	20	21.1	19.3	105	97	75-125	9	30	
Trichlorofluoromethane	ug/L	20	18.7	18.0	93	90	75-126	4	30	
Vinyl acetate	ug/L	20	20.7	20.7	103	104	67-126	0	30	
Vinyl chloride	ug/L	20	17.5	17.1	88	85	72-125	3	30	
Xylene (Total)	ug/L	60	63.4	59.5	106	99	75-125	6	30	
1,2-Dichloroethane-d4 (S)	%				95	95	75-125			
4-Bromofluorobenzene (S)	%				100	98	75-125			
Toluene-d8 (S)	%				102	101	75-125			

MATRIX SPIKE SAMPLE: 2475469		1280324004	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	ND	20	23.9	119	75-127	
1,1,1-Trichloroethane	ug/L	ND	20	23.2	116	66-142	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	22.3	111	70-131	
1,1,2-Trichloroethane	ug/L	ND	20	21.2	106	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	25.7	128	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

MATRIX SPIKE SAMPLE: 2475469		1280324004	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	ND	20	21.2	106	58-147	
1,1-Dichloroethene	ug/L	ND	20	23.4	117	49-150	
1,1-Dichloropropene	ug/L	ND	20	23.2	116	58-147	
1,2,3-Trichlorobenzene	ug/L	ND	20	22.4	112	57-139	
1,2,3-Trichloropropane	ug/L	ND	20	21.8	109	71-127	
1,2,4-Trichlorobenzene	ug/L	ND	20	23.1	116	55-136	
1,2,4-Trimethylbenzene	ug/L	ND	20	24.7	124	67-138	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	47.9	96	63-136	
1,2-Dibromoethane (EDB)	ug/L	ND	20	22.8	114	74-125	
1,2-Dichlorobenzene	ug/L	ND	20	22.3	112	75-125	
1,2-Dichloroethane	ug/L	ND	20	18.9	95	63-133	
1,2-Dichloroethene (Total)	ug/L	ND	40	43.3	108	55-146	
1,2-Dichloropropane	ug/L	ND	20	21.5	108	63-138	
1,3,5-Trimethylbenzene	ug/L	ND	20	24.8	124	69-136	
1,3-Dichlorobenzene	ug/L	ND	20	23.3	117	75-125	
1,3-Dichloropropane	ug/L	ND	20	22.3	111	65-135	
1,4-Dichlorobenzene	ug/L	ND	20	22.0	110	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	428	107	54-145	
2,2,4-Trimethylpentane	ug/L	ND	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	ND	20	24.5	122	39-148	
2-Butanone (MEK)	ug/L	ND	100	92.1	92	50-144	
2-Chlorotoluene	ug/L	ND	20	22.5	113	71-135	
2-Hexanone	ug/L	ND	100	106	106	43-150	
4-Chlorotoluene	ug/L	ND	20	23.1	116	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	103	103	60-147	
Acetone	ug/L	27.0	100	109	82	59-150	
Acrolein	ug/L	ND	200	363	182	30-150	CH,M1
Acrylonitrile	ug/L	ND	200	200	100	41-148	
Benzene	ug/L	ND	20	22.1	111	61-138	
Bromobenzene	ug/L	ND	20	22.5	113	74-130	
Bromochloromethane	ug/L	ND	20	21.8	109	65-137	
Bromodichloromethane	ug/L	ND	20	21.1	106	66-136	
Bromoform	ug/L	ND	20	17.0	85	71-125	
Bromomethane	ug/L	ND	20	15.2	76	30-150	
Carbon disulfide	ug/L	ND	20	21.2	106	30-150	
Carbon tetrachloride	ug/L	ND	20	24.8	124	68-140	
Chlorobenzene	ug/L	ND	20	22.0	110	75-132	
Chloroethane	ug/L	ND	20	19.8	99	55-150	
Chloroform	ug/L	ND	20	20.1	101	64-139	
Chloromethane	ug/L	ND	20	19.7	96	73-150	
cis-1,2-Dichloroethene	ug/L	ND	20	20.9	105	62-138	
cis-1,3-Dichloropropene	ug/L	ND	20	22.2	111	70-125	
Dibromochloromethane	ug/L	ND	20	21.1	105	74-125	
Dibromomethane	ug/L	ND	20	22.3	111	66-138	
Dichlorodifluoromethane	ug/L	ND	20	20.7	103	53-150	
Dichlorofluoromethane	ug/L	ND	20	18.1	91	58-150	
Diisopropyl ether	ug/L	ND	20	20.6	103	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

MATRIX SPIKE SAMPLE: 2475469

Parameter	Units	1280324004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	ND	20	20.9	105	30-140	
Ethylbenzene	ug/L	ND	20	21.7	108	66-141	
Hexachloro-1,3-butadiene	ug/L	ND	20	27.6	138	63-139	
Isopropylbenzene (Cumene)	ug/L	ND	20	24.6	123	65-146	
m&p-Xylene	ug/L	ND	40	47.0	117	72-142	
Methyl-tert-butyl ether	ug/L	ND	20	19.7	98	63-134	
Methylene Chloride	ug/L	ND	20	20.1	101	49-143	
n-Butylbenzene	ug/L	ND	20	25.4	127	67-134	
n-Propylbenzene	ug/L	ND	20	24.0	120	62-142	
Naphthalene	ug/L	ND	20	19.4	97	41-150	
o-Xylene	ug/L	ND	20	24.0	120	66-138	
p-Isopropyltoluene	ug/L	ND	20	26.5	133	64-137	
sec-Butylbenzene	ug/L	ND	20	25.6	128	65-142	
Styrene	ug/L	ND	20	24.4	122	61-142	
tert-Amylmethyl ether	ug/L	ND	20	20.3	102	65-125	
tert-Butyl Alcohol	ug/L	ND	200	223	111	59-138	
tert-Butylbenzene	ug/L	ND	20	23.5	118	69-135	
Tetrachloroethene	ug/L	ND	20	25.2	126	62-142	
Tetrahydrofuran	ug/L	ND	200	214	107	55-150	
Toluene	ug/L	ND	20	22.5	112	66-132	
trans-1,2-Dichloroethene	ug/L	ND	20	22.4	112	48-150	
trans-1,3-Dichloropropene	ug/L	ND	20	22.5	113	65-130	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	23.5	47	31-150	CL
Trichloroethene	ug/L	ND	20	24.3	121	64-142	
Trichlorofluoromethane	ug/L	ND	20	21.3	107	63-150	
Vinyl acetate	ug/L	ND	20	22.6	113	30-150	
Vinyl chloride	ug/L	ND	20	17.4	87	58-150	
Xylene (Total)	ug/L	ND	60	71.0	118	70-140	
1,2-Dichloroethane-d4 (S)	%				93	75-125	
4-Bromofluorobenzene (S)	%				96	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	<0.064		30	
1,1,1-Trichloroethane	ug/L	ND	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	<0.055		30	
1,1,2-Trichloroethane	ug/L	ND	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	<0.13		30	
1,1-Dichloroethane	ug/L	ND	<0.055		30	
1,1-Dichloroethene	ug/L	ND	<0.069		30	
1,1-Dichloropropene	ug/L	ND	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	ND	<0.17		30	
1,2,3-Trichloropropane	ug/L	ND	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	ND	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	ND	<0.092		30	
1,2-Dichlorobenzene	ug/L	ND	<0.078		30	
1,2-Dichloroethane	ug/L	ND	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	ND	<0.16		30	
1,2-Dichloropropane	ug/L	ND	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	ND	<0.042		30	
1,3-Dichlorobenzene	ug/L	ND	<0.085		30	
1,3-Dichloropropane	ug/L	ND	<0.059		30	
1,4-Dichlorobenzene	ug/L	ND	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	ND	<4.8		30	
2,2,4-Trimethylpentane	ug/L	ND	<0.087		30	
2,2-Dichloropropane	ug/L	ND	<0.096		30	
2-Butanone (MEK)	ug/L	ND	<1.1		30	
2-Chlorotoluene	ug/L	ND	<0.084		30	
2-Hexanone	ug/L	ND	<0.19		30	
4-Chlorotoluene	ug/L	ND	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	<0.80		30	
Acetone	ug/L	ND	16.9J		30	
Acrolein	ug/L	ND	<2.1		30	
Acrylonitrile	ug/L	ND	<0.49		30	
Benzene	ug/L	ND	<0.042		30	
Bromobenzene	ug/L	ND	<0.087		30	
Bromochloromethane	ug/L	ND	<0.082		30	
Bromodichloromethane	ug/L	ND	<0.068		30	
Bromoform	ug/L	ND	<0.11		30	
Bromomethane	ug/L	ND	<0.20		30	
Carbon disulfide	ug/L	ND	<0.20		30	
Carbon tetrachloride	ug/L	ND	<0.079		30	
Chlorobenzene	ug/L	ND	<0.066		30	
Chloroethane	ug/L	ND	<0.12		30	
Chloroform	ug/L	ND	<0.21		30	
Chloromethane	ug/L	ND	0.29J		30	
cis-1,2-Dichloroethene	ug/L	ND	<0.12		30	
cis-1,3-Dichloropropene	ug/L	ND	<0.069		30	
Dibromochloromethane	ug/L	ND	<0.048		30	
Dibromomethane	ug/L	ND	<0.14		30	
Dichlorodifluoromethane	ug/L	ND	<0.075		30	
Dichlorofluoromethane	ug/L	ND	<0.054		30	
Diisopropyl ether	ug/L	ND	<0.050		30	
Ethyl-tert-butyl ether	ug/L	ND	<0.062		30	
Ethylbenzene	ug/L	ND	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	ND	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	ND	<0.064		30	
m&p-Xylene	ug/L	ND	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

SAMPLE DUPLICATE: 2475470

Parameter	Units	1280324005 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	ND	<0.047		30	
Methylene Chloride	ug/L	ND	<0.097		30	
n-Butylbenzene	ug/L	ND	<0.16		30	
n-Propylbenzene	ug/L	ND	<0.049		30	
Naphthalene	ug/L	ND	<0.064		30	
o-Xylene	ug/L	ND	<0.044		30	
p-Isopropyltoluene	ug/L	ND	<0.064		30	
sec-Butylbenzene	ug/L	ND	<0.094		30	
Styrene	ug/L	ND	<0.056		30	
tert-Amylmethyl ether	ug/L	ND	<0.073		30	
tert-Butyl Alcohol	ug/L	ND	<0.89		30	
tert-Butylbenzene	ug/L	ND	<0.051		30	
Tetrachloroethene	ug/L	ND	<0.13		30	
Tetrahydrofuran	ug/L	ND	<1.5		30	
Toluene	ug/L	ND	<0.059		30	
trans-1,2-Dichloroethene	ug/L	ND	<0.15		30	
trans-1,3-Dichloropropene	ug/L	ND	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	<0.45		30	CL
Trichloroethene	ug/L	ND	<0.044		30	
Trichlorofluoromethane	ug/L	ND	<0.055		30	
Vinyl acetate	ug/L	ND	<0.12		30	
Vinyl chloride	ug/L	ND	<0.098		30	
Xylene (Total)	ug/L	ND	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	96	96	0		
4-Bromofluorobenzene (S)	%	102	100	2		
Toluene-d8 (S)	%	101	99	3		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 452216 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10373269001

METHOD BLANK: 2475712 Matrix: Water
Associated Lab Samples: 10373269001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/17/16 01:05	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/17/16 01:05	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/17/16 01:05	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/17/16 01:05	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/17/16 01:05	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/17/16 01:05	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/17/16 01:05	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/17/16 01:05	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/17/16 01:05	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/17/16 01:05	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/17/16 01:05	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/17/16 01:05	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/17/16 01:05	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/17/16 01:05	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/17/16 01:05	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/17/16 01:05	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/17/16 01:05	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/17/16 01:05	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/17/16 01:05	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/17/16 01:05	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/17/16 01:05	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/17/16 01:05	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/17/16 01:05	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/17/16 01:05	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/17/16 01:05	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/17/16 01:05	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/17/16 01:05	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/17/16 01:05	
Acetone	ug/L	<0.64	20.0	0.64	12/17/16 01:05	
Acrolein	ug/L	<2.1	10.0	2.1	12/17/16 01:05	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/17/16 01:05	
Benzene	ug/L	<0.042	0.50	0.042	12/17/16 01:05	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/17/16 01:05	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/17/16 01:05	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/17/16 01:05	
Bromoform	ug/L	<0.11	4.0	0.11	12/17/16 01:05	
Bromomethane	ug/L	<0.20	4.0	0.20	12/17/16 01:05	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/17/16 01:05	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/17/16 01:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

METHOD BLANK: 2475712

Matrix: Water

Associated Lab Samples: 10373269001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/17/16 01:05	
Chloroethane	ug/L	<0.12	1.0	0.12	12/17/16 01:05	
Chloroform	ug/L	<0.21	1.0	0.21	12/17/16 01:05	
Chloromethane	ug/L	<0.080	4.0	0.080	12/17/16 01:05	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/17/16 01:05	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/17/16 01:05	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/17/16 01:05	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/17/16 01:05	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/17/16 01:05	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/17/16 01:05	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/17/16 01:05	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/17/16 01:05	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/17/16 01:05	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/17/16 01:05	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/17/16 01:05	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/17/16 01:05	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/17/16 01:05	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/17/16 01:05	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/17/16 01:05	
Naphthalene	ug/L	<0.064	4.0	0.064	12/17/16 01:05	
o-Xylene	ug/L	<0.044	0.50	0.044	12/17/16 01:05	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/17/16 01:05	
Styrene	ug/L	<0.056	0.50	0.056	12/17/16 01:05	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/17/16 01:05	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/17/16 01:05	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/17/16 01:05	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/17/16 01:05	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/17/16 01:05	
Toluene	ug/L	<0.059	0.50	0.059	12/17/16 01:05	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/17/16 01:05	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/17/16 01:05	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/17/16 01:05	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/17/16 01:05	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/17/16 01:05	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/17/16 01:05	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/17/16 01:05	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/17/16 01:05	
1,2-Dichloroethane-d4 (S)	%	91	75-125		12/17/16 01:05	
4-Bromofluorobenzene (S)	%	99	75-125		12/17/16 01:05	
Toluene-d8 (S)	%	101	75-125		12/17/16 01:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE: 2475713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.7	99	75-125	
1,1,1-Trichloroethane	ug/L	20	18.7	94	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	98	67-131	
1,1,2-Trichloroethane	ug/L	20	19.0	95	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.7	93	75-125	
1,1-Dichloroethane	ug/L	20	18.4	92	74-125	
1,1-Dichloroethene	ug/L	20	18.0	90	74-125	
1,1-Dichloropropene	ug/L	20	18.1	91	74-125	
1,2,3-Trichlorobenzene	ug/L	20	18.9	94	63-131	
1,2,3-Trichloropropane	ug/L	20	19.7	99	73-125	
1,2,4-Trichlorobenzene	ug/L	20	17.4	87	66-126	
1,2,4-Trimethylbenzene	ug/L	20	20.7	103	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	43.4	87	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	104	75-125	
1,2-Dichlorobenzene	ug/L	20	19.5	98	75-125	
1,2-Dichloroethane	ug/L	20	16.5	83	75-125	
1,2-Dichloroethene (Total)	ug/L	40	36.3	91	75-125	
1,2-Dichloropropane	ug/L	20	17.9	90	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.9	104	73-127	
1,3-Dichlorobenzene	ug/L	20	19.7	99	75-125	
1,3-Dichloropropane	ug/L	20	19.2	96	69-125	
1,4-Dichlorobenzene	ug/L	20	19.2	96	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	391	98	70-130	
2,2,4-Trimethylpentane	ug/L	20	16.6	83	67-138	
2,2-Dichloropropane	ug/L	20	16.7	84	69-125	
2-Butanone (MEK)	ug/L	100	88.2	88	48-145	
2-Chlorotoluene	ug/L	20	19.2	96	74-125	
2-Hexanone	ug/L	100	94.5	95	63-135	
4-Chlorotoluene	ug/L	20	19.5	97	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.9	95	53-138	
Acetone	ug/L	100	99.5	99	70-142	
Acrolein	ug/L	200	321	160	44-150	CH,L0
Acrylonitrile	ug/L	200	189	94	68-125	
Benzene	ug/L	20	18.8	94	65-125	
Bromobenzene	ug/L	20	19.0	95	75-125	
Bromochloromethane	ug/L	20	19.1	96	75-125	
Bromodichloromethane	ug/L	20	18.0	90	73-125	
Bromoform	ug/L	20	16.3	82	69-125	
Bromomethane	ug/L	20	16.3	81	40-136	
Carbon disulfide	ug/L	20	17.0	85	36-150	
Carbon tetrachloride	ug/L	20	18.9	95	70-125	
Chlorobenzene	ug/L	20	19.4	97	75-125	
Chloroethane	ug/L	20	18.9	95	67-141	
Chloroform	ug/L	20	16.8	84	75-125	
Chloromethane	ug/L	20	17.3	87	50-150	
cis-1,2-Dichloroethene	ug/L	20	18.0	90	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.4	97	75-125	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE: 2475713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	18.7	94	75-125	
Dibromomethane	ug/L	20	20.3	101	75-129	
Dichlorodifluoromethane	ug/L	20	16.8	84	59-135	
Dichlorofluoromethane	ug/L	20	18.1	90	74-130	
Diisopropyl ether	ug/L	20	17.5	87	71-125	
Ethyl-tert-butyl ether	ug/L	20	17.7	88	70-130	
Ethylbenzene	ug/L	20	18.6	93	75-125	
Hexachloro-1,3-butadiene	ug/L	20	19.5	97	72-126	
Isopropylbenzene (Cumene)	ug/L	20	21.3	107	71-136	
m&p-Xylene	ug/L	40	41.3	103	75-125	
Methyl-tert-butyl ether	ug/L	20	16.9	84	73-127	
Methylene Chloride	ug/L	20	17.5	88	68-128	
n-Butylbenzene	ug/L	20	18.9	94	70-126	
n-Propylbenzene	ug/L	20	19.7	98	67-131	
Naphthalene	ug/L	20	16.0	80	52-134	
o-Xylene	ug/L	20	21.5	108	75-125	
p-Isopropyltoluene	ug/L	20	21.0	105	74-125	
sec-Butylbenzene	ug/L	20	20.5	103	69-134	
Styrene	ug/L	20	21.2	106	75-125	
tert-Amylmethyl ether	ug/L	20	18.0	90	70-130	
tert-Butyl Alcohol	ug/L	200	173	86	66-128	
tert-Butylbenzene	ug/L	20	19.3	96	71-128	
Tetrachloroethene	ug/L	20	21.1	105	74-125	
Tetrahydrofuran	ug/L	200	194	97	64-142	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.3	91	73-125	
trans-1,3-Dichloropropene	ug/L	20	19.5	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	31.8	64	54-133	
Trichloroethene	ug/L	20	20.6	103	75-125	
Trichlorofluoromethane	ug/L	20	18.0	90	75-126	
Vinyl acetate	ug/L	20	18.8	94	67-126	
Vinyl chloride	ug/L	20	17.2	86	72-125	
Xylene (Total)	ug/L	60	62.8	105	75-125	
1,2-Dichloroethane-d4 (S)	%			91	75-125	
4-Bromofluorobenzene (S)	%			95	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2475714 2475715

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10373467003 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	22.9	23.4	115	117	75-127	2	30	
1,1,1-Trichloroethane	ug/L	<0.057	20	20	22.8	22.3	114	111	66-142	2	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	21.0	21.4	105	107	70-131	2	30	
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20.6	21.6	103	108	75-128	5	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2475714		2475715							
Parameter	Units	10373467003	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	23.6	24.6	118	123	54-150	4	30
1,1-Dichloroethane	ug/L	<0.055	20	20	21.0	20.7	105	103	58-147	2	30
1,1-Dichloroethene	ug/L	<0.069	20	20	22.0	21.9	110	109	49-150	1	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.8	22.1	109	110	58-147	1	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	21.6	21.8	108	109	57-139	1	30
1,2,3-Trichloropropane	ug/L	<0.19	20	20	22.0	20.7	110	103	71-127	6	30
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	21.4	21.0	107	105	55-136	2	30
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	23.8	23.6	119	118	67-138	1	30
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	44.3	46.7	89	93	63-136	5	30
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	22.7	22.1	113	111	74-125	3	30
1,2-Dichlorobenzene	ug/L	<0.078	20	20	21.7	22.4	109	112	75-125	3	30
1,2-Dichloroethane	ug/L	<0.072	20	20	18.1	17.9	91	90	63-133	1	30
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	42.1	42.9	105	107	55-146	2	30
1,2-Dichloropropane	ug/L	<0.066	20	20	20.8	21.0	104	105	63-138	1	30
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	24.2	24.0	121	120	69-136	1	30
1,3-Dichlorobenzene	ug/L	<0.085	20	20	22.7	22.7	114	114	75-125	0	30
1,3-Dichloropropane	ug/L	<0.059	20	20	20.7	21.1	104	106	65-135	2	30
1,4-Dichlorobenzene	ug/L	<0.081	20	20	21.6	22.0	108	110	70-126	2	30
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	430	429	108	107	54-145	0	30
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	20.3	20.6	102	103	30-150	1	30
2,2-Dichloropropane	ug/L	<0.096	20	20	20.1	20.2	100	101	39-148	0	30
2-Butanone (MEK)	ug/L	<1.1	100	100	90.6	86.1	91	86	50-144	5	30
2-Chlorotoluene	ug/L	<0.084	20	20	22.2	22.2	111	111	71-135	0	30
2-Hexanone	ug/L	<0.19	100	100	103	101	103	101	43-150	3	30
4-Chlorotoluene	ug/L	<0.048	20	20	22.4	21.8	112	109	71-131	3	30
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	102	99.6	102	100	60-147	3	30
Acetone	ug/L	5.9J	100	100	104	103	98	97	59-150	1	30
Acrolein	ug/L	<2.1	200	200	340	329	170	164	30-150	3	30 CH,M0
Acrylonitrile	ug/L	<0.49	200	200	191	192	96	96	41-148	0	30
Benzene	ug/L	<0.042	20	20	21.9	22.1	110	110	61-138	1	30
Bromobenzene	ug/L	<0.087	20	20	22.6	23.0	113	115	74-130	2	30
Bromochloromethane	ug/L	<0.082	20	20	22.1	20.9	111	104	65-137	6	30
Bromodichloromethane	ug/L	<0.068	20	20	20.4	20.2	102	101	66-136	1	30
Bromoform	ug/L	<0.11	20	20	16.6	17.7	83	88	71-125	6	30
Bromomethane	ug/L	<0.20	20	20	18.5	21.0	92	105	30-150	13	30
Carbon disulfide	ug/L	<0.20	20	20	18.5	19.1	92	96	30-150	3	30
Carbon tetrachloride	ug/L	<0.079	20	20	23.9	24.1	119	121	68-140	1	30
Chlorobenzene	ug/L	<0.066	20	20	22.1	22.1	110	110	75-132	0	30
Chloroethane	ug/L	<0.12	20	20	21.4	20.6	107	103	55-150	4	30
Chloroform	ug/L	<0.21	20	20	20.0	19.9	100	99	64-139	1	30
Chloromethane	ug/L	<0.080	20	20	21.5	21.4	107	107	73-150	1	30
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	20.6	21.0	103	105	62-138	2	30
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	20.9	21.5	104	107	70-125	3	30
Dibromochloromethane	ug/L	<0.048	20	20	20.0	20.9	100	104	74-125	4	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Parameter	Units	10373467003		2475714		2475715		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Dibromomethane	ug/L	<0.14	20	20	22.1	22.0	110	110	66-138	0	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	21.8	22.4	109	112	53-150	2	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.3	20.4	106	102	58-150	4	30		
Diisopropyl ether	ug/L	<0.050	20	20	19.8	19.7	99	99	50-139	1	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	19.8	19.9	99	99	30-140	1	30		
Ethylbenzene	ug/L	<0.075	20	20	21.7	21.7	109	108	66-141	0	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	22.9	24.2	114	121	63-139	6	30		
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	24.9	24.5	125	123	65-146	2	30		
m&p-Xylene	ug/L	<0.11	40	40	46.7	47.8	117	120	72-142	2	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.3	19.0	97	95	63-134	2	30		
Methylene Chloride	ug/L	<0.097	20	20	19.8	19.6	99	98	49-143	1	30		
n-Butylbenzene	ug/L	<0.16	20	20	23.3	23.7	117	119	67-134	2	30		
n-Propylbenzene	ug/L	<0.049	20	20	23.2	23.2	116	116	62-142	0	30		
Naphthalene	ug/L	<0.064	20	20	18.6	18.9	93	95	41-150	2	30		
o-Xylene	ug/L	<0.044	20	20	24.3	25.0	121	125	66-138	3	30		
p-Isopropyltoluene	ug/L	0.21J	20	20	25.1	25.3	124	125	64-137	1	30		
sec-Butylbenzene	ug/L	<0.094	20	20	24.2	24.4	121	122	65-142	1	30		
Styrene	ug/L	<0.056	20	20	23.9	23.7	120	118	61-142	1	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.7	19.5	98	98	65-125	1	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	234	205	117	103	59-138	13	30		
tert-Butylbenzene	ug/L	<0.051	20	20	22.5	22.8	113	114	69-135	1	30		
Tetrachloroethene	ug/L	<0.13	20	20	24.3	24.4	121	122	62-142	1	30		
Tetrahydrofuran	ug/L	<1.5	200	200	219	206	109	103	55-150	6	30		
Toluene	ug/L	<0.059	20	20	22.7	22.6	113	113	66-132	0	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	21.4	21.9	107	109	48-150	2	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	21.0	21.5	105	108	65-130	3	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	24.2	29.6	48	59	31-150	20	30		
Trichloroethene	ug/L	<0.044	20	20	24.9	24.8	124	124	64-142	0	30		
Trichlorofluoromethane	ug/L	<0.055	20	20	23.1	22.7	115	114	63-150	1	30		
Vinyl acetate	ug/L	<0.12	20	20	20.3	19.3	102	97	30-150	5	30		
Vinyl chloride	ug/L	<0.098	20	20	21.6	21.3	108	107	58-150	1	30		
Xylene (Total)	ug/L	<0.15	60	60	71.0	72.8	118	121	70-140	3	30		
1,2-Dichloroethane-d4 (S)	%						91	89	75-125				
4-Bromofluorobenzene (S)	%						95	94	75-125				
Toluene-d8 (S)	%						99	100	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 452283 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10373269002, 10373269003, 10373269004, 10373269005, 10373269006, 10373269008

METHOD BLANK: 2476239 Matrix: Water
Associated Lab Samples: 10373269002, 10373269003, 10373269004, 10373269005, 10373269006, 10373269008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/18/16 06:10	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/18/16 06:10	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/18/16 06:10	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/18/16 06:10	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/18/16 06:10	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/18/16 06:10	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/18/16 06:10	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/18/16 06:10	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/18/16 06:10	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/18/16 06:10	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/18/16 06:10	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/18/16 06:10	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/18/16 06:10	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/18/16 06:10	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/18/16 06:10	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/18/16 06:10	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/18/16 06:10	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/18/16 06:10	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/18/16 06:10	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/18/16 06:10	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/18/16 06:10	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/18/16 06:10	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/18/16 06:10	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/18/16 06:10	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/18/16 06:10	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/18/16 06:10	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/18/16 06:10	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/18/16 06:10	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/18/16 06:10	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/18/16 06:10	
Acetone	ug/L	<0.64	20.0	0.64	12/18/16 06:10	
Acrolein	ug/L	<2.1	10.0	2.1	12/18/16 06:10	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/18/16 06:10	
Benzene	ug/L	<0.042	0.50	0.042	12/18/16 06:10	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/18/16 06:10	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/18/16 06:10	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/18/16 06:10	
Bromoform	ug/L	<0.11	4.0	0.11	12/18/16 06:10	
Bromomethane	ug/L	<0.20	4.0	0.20	12/18/16 06:10	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/18/16 06:10	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/18/16 06:10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

METHOD BLANK: 2476239

Matrix: Water

Associated Lab Samples: 10373269002, 10373269003, 10373269004, 10373269005, 10373269006, 10373269008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/18/16 06:10	
Chloroethane	ug/L	<0.12	1.0	0.12	12/18/16 06:10	
Chloroform	ug/L	<0.21	1.0	0.21	12/18/16 06:10	
Chloromethane	ug/L	<0.080	4.0	0.080	12/18/16 06:10	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/18/16 06:10	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/18/16 06:10	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/18/16 06:10	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/18/16 06:10	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/18/16 06:10	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/18/16 06:10	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/18/16 06:10	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/18/16 06:10	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/18/16 06:10	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/18/16 06:10	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/18/16 06:10	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/18/16 06:10	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/18/16 06:10	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/18/16 06:10	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/18/16 06:10	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/18/16 06:10	
Naphthalene	ug/L	0.65J	4.0	0.064	12/18/16 06:10	
o-Xylene	ug/L	<0.044	0.50	0.044	12/18/16 06:10	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/18/16 06:10	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/18/16 06:10	
Styrene	ug/L	<0.056	0.50	0.056	12/18/16 06:10	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/18/16 06:10	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/18/16 06:10	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/18/16 06:10	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/18/16 06:10	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/18/16 06:10	
Toluene	ug/L	<0.059	0.50	0.059	12/18/16 06:10	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/18/16 06:10	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/18/16 06:10	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/18/16 06:10	CL
Trichloroethene	ug/L	<0.044	0.40	0.044	12/18/16 06:10	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/18/16 06:10	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/18/16 06:10	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/18/16 06:10	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/18/16 06:10	
1,2-Dichloroethane-d4 (S)	%	86	75-125		12/18/16 06:10	
4-Bromofluorobenzene (S)	%	97	75-125		12/18/16 06:10	
Toluene-d8 (S)	%	99	75-125		12/18/16 06:10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE & LCSD: 2476240		2476670								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	20.3	100	102	75-125	1	30	
1,1,1-Trichloroethane	ug/L	20	18.0	17.6	90	88	74-125	2	30	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	20.1	97	100	67-131	3	30	
1,1,2-Trichloroethane	ug/L	20	18.6	18.4	93	92	75-125	1	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.6	17.1	88	86	75-125	2	30	
1,1-Dichloroethane	ug/L	20	17.5	17.2	88	86	74-125	2	30	
1,1-Dichloroethene	ug/L	20	17.5	16.4	87	82	74-125	7	30	
1,1-Dichloropropene	ug/L	20	17.9	16.8	89	84	74-125	7	30	
1,2,3-Trichlorobenzene	ug/L	20	19.2	20.5	96	102	63-131	6	30	
1,2,3-Trichloropropane	ug/L	20	19.7	19.6	98	98	73-125	1	30	
1,2,4-Trichlorobenzene	ug/L	20	18.8	20.1	94	100	66-126	6	30	
1,2,4-Trimethylbenzene	ug/L	20	20.3	20.5	101	103	74-129	1	30	
1,2-Dibromo-3-chloropropane	ug/L	50	44.9	45.5	90	91	54-129	1	30	
1,2-Dibromoethane (EDB)	ug/L	20	19.5	20.2	98	101	75-125	3	30	
1,2-Dichlorobenzene	ug/L	20	19.4	19.6	97	98	75-125	1	30	
1,2-Dichloroethane	ug/L	20	15.4	15.2	77	76	75-125	1	30	
1,2-Dichloroethene (Total)	ug/L	40	36.6	35.5	91	89	75-125	3	30	
1,2-Dichloropropane	ug/L	20	18.7	17.9	93	89	75-125	4	30	
1,3,5-Trimethylbenzene	ug/L	20	20.3	20.5	102	103	73-127	1	30	
1,3-Dichlorobenzene	ug/L	20	19.7	19.6	99	98	75-125	1	30	
1,3-Dichloropropane	ug/L	20	18.2	18.5	91	93	69-125	2	30	
1,4-Dichlorobenzene	ug/L	20	18.7	19.1	94	95	75-125	2	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	391	404	98	101	70-130	3	30	
2,2,4-Trimethylpentane	ug/L	20	16.6	16.0	83	80	67-138	4	30	
2,2-Dichloropropane	ug/L	20	16.3	15.7	82	79	69-125	4	30	
2-Butanone (MEK)	ug/L	100	80.9	82.7	81	83	48-145	2	30	
2-Chlorotoluene	ug/L	20	19.1	19.6	96	98	74-125	3	30	
2-Hexanone	ug/L	100	92.4	93.5	92	93	63-135	1	30	
4-Chlorotoluene	ug/L	20	18.8	19.1	94	96	73-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.0	91.1	90	91	53-138	1	30	
Acetone	ug/L	100	89.8	92.9	90	93	70-142	3	30	
Acrolein	ug/L	200	256	202	128	101	44-150	24	30	
Acrylonitrile	ug/L	200	184	175	92	88	68-125	5	30	
Benzene	ug/L	20	18.7	18.0	93	90	65-125	4	30	
Bromobenzene	ug/L	20	19.5	19.2	97	96	75-125	1	30	
Bromochloromethane	ug/L	20	18.9	19.1	94	95	75-125	1	30	
Bromodichloromethane	ug/L	20	17.9	18.3	89	92	73-125	3	30	
Bromoform	ug/L	20	16.1	16.4	80	82	69-125	2	30	
Bromomethane	ug/L	20	4.6	5.1	23	26	40-136	11	30	CL,L0
Carbon disulfide	ug/L	20	17.2	16.0	86	80	36-150	7	30	
Carbon tetrachloride	ug/L	20	18.5	18.2	93	91	70-125	2	30	
Chlorobenzene	ug/L	20	18.6	18.6	93	93	75-125	0	30	
Chloroethane	ug/L	20	21.6	17.8	108	89	67-141	20	30	
Chloroform	ug/L	20	17.2	16.6	86	83	75-125	4	30	
Chloromethane	ug/L	20	16.1	15.1	80	75	50-150	6	30	
cis-1,2-Dichloroethene	ug/L	20	18.2	17.3	91	87	75-125	5	30	
cis-1,3-Dichloropropene	ug/L	20	18.8	18.4	94	92	75-125	3	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

LABORATORY CONTROL SAMPLE & LCSD:		2476240		2476670							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.1	18.4	90	92	75-125	2	30		
Dibromomethane	ug/L	20	20.0	19.9	100	100	75-129	0	30		
Dichlorodifluoromethane	ug/L	20	16.0	15.3	80	77	59-135	4	30		
Dichlorofluoromethane	ug/L	20	17.3	16.9	86	84	74-130	2	30		
Diisopropyl ether	ug/L	20	17.4	17.2	87	86	71-125	1	30		
Ethyl-tert-butyl ether	ug/L	20	17.5	17.3	88	87	70-130	1	30		
Ethylbenzene	ug/L	20	18.2	17.6	91	88	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	19.5	19.7	98	99	72-126	1	30		
Isopropylbenzene (Cumene)	ug/L	20	20.5	20.5	102	102	71-136	0	30		
m&p-Xylene	ug/L	40	39.5	38.7	99	97	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	17.4	17.3	87	86	73-127	1	30		
Methylene Chloride	ug/L	20	17.3	16.6	86	83	68-128	4	30		
n-Butylbenzene	ug/L	20	18.6	19.2	93	96	70-126	3	30		
n-Propylbenzene	ug/L	20	19.2	19.3	96	97	67-131	1	30		
Naphthalene	ug/L	20	16.7	18.3	84	91	52-134	9	30		
o-Xylene	ug/L	20	20.6	20.6	103	103	75-125	0	30		
p-Isopropyltoluene	ug/L	20	21.0	20.8	105	104	74-125	1	30		
sec-Butylbenzene	ug/L	20	20.0	20.2	100	101	69-134	1	30		
Styrene	ug/L	20	20.4	20.1	102	100	75-125	1	30		
tert-Amylmethyl ether	ug/L	20	17.5	17.6	87	88	70-130	0	30		
tert-Butyl Alcohol	ug/L	200	175	198	88	99	66-128	12	30		
tert-Butylbenzene	ug/L	20	19.0	18.9	95	94	71-128	1	30		
Tetrachloroethene	ug/L	20	20.2	20.0	101	100	74-125	1	30		
Tetrahydrofuran	ug/L	200	195	198	97	99	64-142	2	30		
Toluene	ug/L	20	19.1	18.7	95	93	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	18.3	18.2	92	91	73-125	1	30		
trans-1,3-Dichloropropene	ug/L	20	17.8	17.4	89	87	75-125	2	30		
trans-1,4-Dichloro-2-butene	ug/L	50	14.6	13.2	29	26	54-133	11	30	CL,L0	
Trichloroethene	ug/L	20	21.1	19.9	105	99	75-125	6	30		
Trichlorofluoromethane	ug/L	20	18.3	17.7	92	89	75-126	3	30		
Vinyl acetate	ug/L	20	18.4	18.6	92	93	67-126	1	30		
Vinyl chloride	ug/L	20	16.5	15.6	83	78	72-125	6	30		
Xylene (Total)	ug/L	60	60.1	59.4	100	99	75-125	1	30		
1,2-Dichloroethane-d4 (S)	%				84	84	75-125				
4-Bromofluorobenzene (S)	%				94	97	75-125				
Toluene-d8 (S)	%				98	100	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2476241		2476242								
Parameter	Units	10373605001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	22.5	22.9	112	115	75-127	2	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	21.5	22.9	107	114	66-142	6	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	21.4	22.6	107	113	70-131	6	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.7	21.8	103	109	75-128	5	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Parameter	Units	10373605001		2476241		2476242		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	24.2	25.2	121	126	54-150	4	30		
1,1-Dichloroethane	ug/L	ND	20	20	20.0	20.3	100	101	58-147	1	30		
1,1-Dichloroethene	ug/L	ND	20	20	21.1	21.5	105	108	49-150	2	30		
1,1-Dichloropropene	ug/L	ND	20	20	21.1	22.4	105	112	58-147	6	30		
1,2,3-Trichlorobenzene	ug/L	ND	20	20	21.0	23.5	105	117	57-139	11	30		
1,2,3-Trichloropropane	ug/L	ND	20	20	20.6	21.7	103	109	71-127	5	30		
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20.6	23.0	103	115	55-136	11	30		
1,2,4-Trimethylbenzene	ug/L	6.9	20	20	30.4	32.1	117	126	67-138	6	30		
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	50.1	52.9	100	106	63-136	5	30		
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	22.4	23.0	112	115	74-125	3	30		
1,2-Dichlorobenzene	ug/L	ND	20	20	21.0	22.6	105	113	75-125	7	30		
1,2-Dichloroethane	ug/L	1.0	20	20	18.2	19.0	86	90	63-133	4	30		
1,2-Dichloroethene (Total)	ug/L	ND	40	40	40.9	43.5	102	109	55-146	6	30		
1,2-Dichloropropane	ug/L	ND	20	20	20.2	20.8	101	104	63-138	3	30		
1,3,5-Trimethylbenzene	ug/L	1.3	20	20	23.9	25.9	113	123	69-136	8	30		
1,3-Dichlorobenzene	ug/L	ND	20	20	21.3	23.2	106	116	75-125	9	30		
1,3-Dichloropropane	ug/L	ND	20	20	20.7	22.2	103	111	65-135	7	30		
1,4-Dichlorobenzene	ug/L	ND	20	20	20.4	22.3	102	111	70-126	9	30		
1,4-Dioxane (p-Dioxane)	ug/L	ND	400	400	410	464	102	116	54-145	12	30		
2,2,4-Trimethylpentane	ug/L	ND	20	20	20.0	20.5	100	103	30-150	3	30		
2,2-Dichloropropane	ug/L	ND	20	20	19.5	20.0	98	100	39-148	2	30		
2-Butanone (MEK)	ug/L	ND	100	100	88.9	91.8	89	92	50-144	3	30		
2-Chlorotoluene	ug/L	ND	20	20	21.1	22.7	105	114	71-135	7	30		
2-Hexanone	ug/L	ND	100	100	102	107	102	107	43-150	5	30		
4-Chlorotoluene	ug/L	ND	20	20	20.6	22.2	103	111	71-131	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	101	104	101	104	60-147	4	30		
Acetone	ug/L	ND	100	100	95.3	106	93	104	59-150	11	30		
Acrolein	ug/L	ND	200	200	230	247	115	123	30-150	7	30		
Acrylonitrile	ug/L	ND	200	200	196	205	98	103	41-148	5	30		
Benzene	ug/L	2.9	20	20	23.8	24.7	104	109	61-138	4	30		
Bromobenzene	ug/L	ND	20	20	21.5	23.0	108	115	74-130	7	30		
Bromochloromethane	ug/L	ND	20	20	21.5	22.8	107	114	65-137	6	30		
Bromodichloromethane	ug/L	ND	20	20	20.0	20.4	100	102	66-136	2	30		
Bromoform	ug/L	ND	20	20	17.5	17.5	87	87	71-125	0	30		
Bromomethane	ug/L	ND	20	20	6.3	9.0	31	45	30-150	35	30	CL,R1	
Carbon disulfide	ug/L	ND	20	20	20.3	20.3	101	101	30-150	0	30		
Carbon tetrachloride	ug/L	ND	20	20	22.9	23.6	114	118	68-140	3	30		
Chlorobenzene	ug/L	ND	20	20	21.8	22.0	109	110	75-132	1	30		
Chloroethane	ug/L	ND	20	20	23.4	23.2	117	116	55-150	1	30		
Chloroform	ug/L	ND	20	20	18.7	20.0	93	100	64-139	7	30		
Chloromethane	ug/L	ND	20	20	18.2	18.9	91	95	73-150	4	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	20.0	21.1	100	105	62-138	5	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	19.9	19.3	100	97	70-125	3	30		
Dibromochloromethane	ug/L	ND	20	20	20.1	20.5	100	102	74-125	2	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Parameter	Units	2476241		2476242		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10373605001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	ND	20	20	21.9	23.2	109	116	66-138	6	30	
Dichlorodifluoromethane	ug/L	ND	20	20	20.8	21.7	104	109	53-150	4	30	
Dichlorofluoromethane	ug/L	ND	20	20	20.8	21.0	104	105	58-150	1	30	
Diisopropyl ether	ug/L	ND	20	20	19.1	20.0	95	100	50-139	5	30	
Ethyl-tert-butyl ether	ug/L	ND	20	20	19.2	19.6	96	98	30-140	2	30	
Ethylbenzene	ug/L	4.8	20	20	26.2	27.4	107	113	66-141	5	30	
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20.9	22.0	105	110	63-139	5	30	
Isopropylbenzene (Cumene)	ug/L	1.1	20	20	25.0	26.1	119	125	65-146	4	30	
m&p-Xylene	ug/L	1.2	40	40	47.1	49.3	115	120	72-142	4	30	
Methyl-tert-butyl ether	ug/L	29.0	20	20	48.5	51.0	97	110	63-134	5	30	
Methylene Chloride	ug/L	ND	20	20	19.2	20.1	96	100	49-143	4	30	
n-Butylbenzene	ug/L	ND	20	20	22.1	24.2	109	120	67-134	9	30	
n-Propylbenzene	ug/L	1.5	20	20	23.6	25.4	111	120	62-142	7	30	
Naphthalene	ug/L	ND	20	20	22.5	24.5	96	106	41-150	9	30	
o-Xylene	ug/L	4.4	20	20	28.8	29.6	122	126	66-138	3	30	
p-Isopropyltoluene	ug/L	ND	20	20	24.3	24.5	122	123	64-137	1	30	
sec-Butylbenzene	ug/L	ND	20	20	23.1	24.9	115	125	65-142	8	30	
Styrene	ug/L	ND	20	20	22.4	23.6	111	117	61-142	5	30	
tert-Amylmethyl ether	ug/L	ND	20	20	19.0	20.0	95	100	65-125	5	30	
tert-Butyl Alcohol	ug/L	14.9	200	200	207	240	96	112	59-138	15	30	
tert-Butylbenzene	ug/L	ND	20	20	21.8	22.9	109	115	69-135	5	30	
Tetrachloroethene	ug/L	ND	20	20	24.6	24.6	123	123	62-142	0	30	
Tetrahydrofuran	ug/L	ND	200	200	204	228	100	111	55-150	11	30	
Toluene	ug/L	ND	20	20	21.7	23.0	107	114	66-132	6	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	20.9	22.4	104	112	48-150	7	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	19.3	19.0	96	95	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	11.9	9.1J	24	18	31-150		30	CL,M0
Trichloroethene	ug/L	ND	20	20	24.1	24.9	120	124	64-142	3	30	
Trichlorofluoromethane	ug/L	ND	20	20	22.5	23.0	113	115	63-150	2	30	
Vinyl acetate	ug/L	ND	20	20	17.3	18.4	87	92	30-150	6	30	
Vinyl chloride	ug/L	ND	20	20	19.7	21.3	98	107	58-150	8	30	
Xylene (Total)	ug/L	5.6	60	60	75.9	78.9	117	122	70-140	4	30	
1,2-Dichloroethane-d4 (S)	%						84	88	75-125			
4-Bromofluorobenzene (S)	%						95	98	75-125			
Toluene-d8 (S)	%						100	101	75-125			

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 452992 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004

METHOD BLANK: 2479897 Matrix: Water
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	12/22/16 11:15	

LABORATORY CONTROL SAMPLE & LCSD: 2479898 2479899

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	38.7	38.4	97	96	90-110	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2479900 2479901

Parameter	Units	10372776001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	988	40	40	1010	1010	47	53	80-120	0	30	H3,M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2479902 2479903

Parameter	Units	10373269001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	195	40	40	227	225	80	75	80-120	1	30	M1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 453262 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10373269005, 10373269006

METHOD BLANK: 2481561 Matrix: Water
Associated Lab Samples: 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	12/24/16 11:47	

LABORATORY CONTROL SAMPLE & LCSD: 2481562 2481563

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	38.9	38.9	97	97	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2481564 2481565

Parameter	Units	10373269005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	136	40	40	171	169	89	83	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2481566 2481567

Parameter	Units	10373384002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	185	40	40	224	227	100	106	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

QC Batch: 451930

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 2474483

Matrix: Water

Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	12/15/16 21:20	

LABORATORY CONTROL SAMPLE: 2474484

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	936	94	80-120	

SAMPLE DUPLICATE: 2474485

Parameter	Units	10372883001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	690	745	8	10	

SAMPLE DUPLICATE: 2474486

Parameter	Units	10372875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	568	564	1	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

QC Batch: 70147

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 292974

Matrix: Water

Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	12/16/16 15:11	

LABORATORY CONTROL SAMPLE: 292975

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	91	90-110	

MATRIX SPIKE SAMPLE: 292977

Parameter	Units	2047312001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.17	85	75-125	

SAMPLE DUPLICATE: 292976

Parameter	Units	2047312001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 451939 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 2474509 Matrix: Water
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	12/20/16 15:17	
Nitrate as N	mg/L	<0.013	0.10	0.013	12/20/16 15:17	
Sulfate	mg/L	<0.16	1.2	0.16	12/20/16 15:17	

LABORATORY CONTROL SAMPLE: 2474510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.8	102	90-110	
Nitrate as N	mg/L	1	0.97	97	90-110	
Sulfate	mg/L	12.5	12.8	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2474511 2474512

Parameter	Units	10373215001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	108	62.5	62.5	164	164	89	89	90-110	0	20	M1	
Nitrate as N	mg/L	2.6	1	1	3.2	3.2	64	64	90-110	0	20	M1	
Sulfate	mg/L	391	62.5	62.5	425	425	56	54	90-110	0	20	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2477439 2477440

Parameter	Units	10373269001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	2.1	12.5	12.5	14.4	14.3	98	98	90-110	0	20		
Nitrate as N	mg/L	<0.013	1	1	0.95	0.95	95	95	90-110	0	20		
Sulfate	mg/L	2.1	12.5	12.5	14.4	14.4	99	98	90-110	0	20		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

QC Batch: 102384 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

METHOD BLANK: 406977 Matrix: Water
Associated Lab Samples: 10373269001, 10373269002, 10373269003, 10373269004, 10373269005, 10373269006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	12/16/16 23:09	

LABORATORY CONTROL SAMPLE: 406978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.7	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406979 406980

Parameter	Units	10372667001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	1.2	25	25	26.7	26.9	102	103	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 406981 406982

Parameter	Units	10372667007 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	1.0 U	25	25	26.5	26.7	103	104	80-120	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 451946

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

H3 Sample was received or analysis requested beyond the recognized method holding time.

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10373269

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10373269001	MW1D-GW-120916	RSK 175	452143		
10373269002	MW2D-GW-120916	RSK 175	452143		
10373269003	W26-GW-120916	RSK 175	452143		
10373269004	W20-GW-121016	RSK 175	452143		
10373269005	MW3D-GW-121016	RSK 175	452143		
10373269006	EB121016	RSK 175	452143		
10373269001	MW1D-GW-120916	EPA 3010	451894	6010C Met	451960
10373269002	MW2D-GW-120916	EPA 3010	451894	6010C Met	451960
10373269003	W26-GW-120916	EPA 3010	451894	6010C Met	451960
10373269004	W20-GW-121016	EPA 3010	451894	6010C Met	451960
10373269005	MW3D-GW-121016	EPA 3010	451894	6010C Met	451960
10373269006	EB121016	EPA 3010	451894	6010C Met	451960
10373269001	MW1D-GW-120916	EPA 7470A	451898	EPA 7470A	452017
10373269002	MW2D-GW-120916	EPA 7470A	451898	EPA 7470A	452017
10373269003	W26-GW-120916	EPA 7470A	451898	EPA 7470A	452017
10373269004	W20-GW-121016	EPA 7470A	451898	EPA 7470A	452017
10373269005	MW3D-GW-121016	EPA 7470A	451898	EPA 7470A	452017
10373269006	EB121016	EPA 7470A	451898	EPA 7470A	452017
10373269001	MW1D-GW-120916	EPA 8260B	452216		
10373269002	MW2D-GW-120916	EPA 8260B	452283		
10373269003	W26-GW-120916	EPA 8260B	452283		
10373269004	W20-GW-121016	EPA 8260B	452283		
10373269005	MW3D-GW-121016	EPA 8260B	452283		
10373269006	EB121016	EPA 8260B	452283		
10373269007	TB120916	EPA 8260B	451946		
10373269008	TB121016	EPA 8260B	452283		
10373269001	MW1D-GW-120916	SM 2320B	452992		
10373269002	MW2D-GW-120916	SM 2320B	452992		
10373269003	W26-GW-120916	SM 2320B	452992		
10373269004	W20-GW-121016	SM 2320B	452992		
10373269005	MW3D-GW-121016	SM 2320B	453262		
10373269006	EB121016	SM 2320B	453262		
10373269001	MW1D-GW-120916	SM 2540C	451930		
10373269002	MW2D-GW-120916	SM 2540C	451930		
10373269003	W26-GW-120916	SM 2540C	451930		
10373269004	W20-GW-121016	SM 2540C	451930		
10373269005	MW3D-GW-121016	SM 2540C	451930		
10373269006	EB121016	SM 2540C	451930		
10373269001	MW1D-GW-120916	SM 4500-S-2 D	70147		
10373269002	MW2D-GW-120916	SM 4500-S-2 D	70147		
10373269003	W26-GW-120916	SM 4500-S-2 D	70147		
10373269004	W20-GW-121016	SM 4500-S-2 D	70147		
10373269005	MW3D-GW-121016	SM 4500-S-2 D	70147		
10373269006	EB121016	SM 4500-S-2 D	70147		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10373269

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10373269001	MW1D-GW-120916	EPA 300.0	451939		
10373269002	MW2D-GW-120916	EPA 300.0	451939		
10373269003	W26-GW-120916	EPA 300.0	451939		
10373269004	W20-GW-121016	EPA 300.0	451939		
10373269005	MW3D-GW-121016	EPA 300.0	451939		
10373269006	EB121016	EPA 300.0	451939		
10373269001	MW1D-GW-120916	SM 5310C	102384		
10373269002	MW2D-GW-120916	SM 5310C	102384		
10373269003	W26-GW-120916	SM 5310C	102384		
10373269004	W20-GW-121016	SM 5310C	102384		
10373269005	MW3D-GW-121016	SM 5310C	102384		
10373269006	EB121016	SM 5310C	102384		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt Form

Document No.:
F-DAV-C-002-rev.02

Document Revised: 25Feb2015
Page 1 of 1

Issuing Authority:
Pace Davis, CA Quality Office

Sample Condition
Upon Receipt

Client Name:
UPRR CH2M Hill

Project #:

WO# : 1280332

1280332

Courier: Fed Ex UPS USPS Client
 Commercial Pace OnTrac Other:

Tracking Number: 6662 9805
0729
6740
6730

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No

Thermom. Used: DA1434 DA2285 Type of Ice: Wet Blue Dry Ice None Samples on ice, cooling process has begun
Cooler Temp Read(°C): 2.2, 1.4, 1.4 Cooler Temp Corrected(°C): 2.8, 1.0, 2.0 Biological Tissue Frozen? Yes No N/A
Temp should be above freezing to 6°C Correction Factor: +0.6 Date and Initials of Person Examining Contents: 11/13/16

			Comments:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1. Samples 07 and 08 only have 2
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2. 40 mL HCL VOAs. NO dates/times
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3. Match COC. SR is unable to verify
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4. which sample is 07 or 08. Per
Samples Arrived within Hold Time?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		5. Client services SR will assign
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		6. one pair as sample ⁰⁷ sample and
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		7. the remaining per as sample 08.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		12. Sample 01, 2 of 3 H2SO4 40 mL VOAs could not verify times.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION


Field Data Required? Yes No

Person Contacted: Brad CH2M Hill Date/Time: 12/13/16 via phone

Comments/Resolution: Samples were sent to Pace Davis, 300.0 nitrate arrived out of hold. Per Brad, analyze out of hold, okay to ship to Pace in MN.

Project Manager Review: JENNI GROSS Date: 12/14/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 12Dec2016 Page 1 of 2
	Document No.: F-MN-L-213-rev.19	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt **Client Name:** CHARM **Project #:** WO# : 10373269

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other:

Tracking Number: 7779 4414 8777/7771

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: **Temp Blank?** Yes No

Thermometer Used: 151401163 151401164 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.4 **Cooler Temp Corrected (°C):** 1.4 **Biological Tissue Frozen?** Yes No N/A
Temp should be above freezing to 6°C **Correction Factor:** true **Date and Initials of Person Examining Contents:** 12/14/16 CLO

USDA Regulated Soil (N/A, water sample)
Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested? JG 12/14/16	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? JG 12/14/16	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH >9 Sulfide, NaOH >12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>1</u> <u>1/1</u> <u>1/1</u> <u>1/1</u>
DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: JENNI GROSS **Date:** 12/14/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Chain of Custody

WO#: 2047339



Workorder: 10373269

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 12/14/2016 Results Requested By: 12/29/2016

Report To		Subcontract To				Requested Analysis																	
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)767-5060		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																					
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers						4500 Sulfide	LAB USE ONLY										
						Other																	
1	MW1D-GW-120916	PS	12/9/2016 09:35	10373269001	Water	1						X											
2	MW2D-GW-120916	PS	12/9/2016 12:25	10373269002	Water	1						X											
3	W26-GW-120916	PS	12/9/2016 14:40	10373269003	Water	1						X											
4	W20-GW-121016	PS	12/10/2016 11:45	10373269004	Water	1						X											
5	MW3D-GW-121016	PS	12/10/2016 09:05	10373269005	Water	1						X											
6	EB121016	PS	12/10/2016 13:00	10373269006	Water	1						X											
Transfers												Comments											
Released By	Date/Time	Received By	Date/Time																				
<i>[Signature]</i> Pace MN	12/14/16 1700	<i>[Signature]</i>	12-15-16 830																				
Cooler Temperature on Receipt 0.9 °C				Custody Seal <input checked="" type="checkbox"/> or N				Received on Ice <input checked="" type="checkbox"/> or N				Samples Intact <input checked="" type="checkbox"/> or N											

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 2047339

PM: ADC

Due Date: 12/29/16

CLIENT: PASI-MINN



Sample Condition Upon Receipt

1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Project: _____

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-15-16

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9	
Sample Labels match COC: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G). <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm): <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:


Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Sample Condition Upon Receipt

Client Name: ACE MPLS Project #: _____

WO# 1280485



1280485

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: HZ 2/16 Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: _____ Cooler Temp Corrected °C: _____ Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: TC Date and Initials of Person Examining Contents: CA 12-15-16

Comments: 10x 12/14/16

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: *Samples were received with a Pace carrier from MPLS. Samples were removed from fridge in the morning & appear to be stored within compliance HZ 12/15/16

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Cavin Date: 12/15/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

December 19, 2016

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

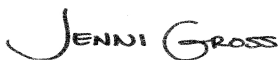
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10373491

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10373491001	Lashaw-GW-121516	Water	12/15/16 13:00	12/16/16 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10373491001	Lashaw-GW-121516	EPA 8260B	PRD	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10373491001	Lashaw-GW-121516					
EPA 8260B	1,2-Dichloroethane	0.16J	ug/L	0.50	12/17/16 03:24	
EPA 8260B	Carbon tetrachloride	0.70J	ug/L	1.0	12/17/16 03:24	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 19, 2016

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 452216

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2475713)
 - Acrolein
- MS (Lab ID: 2475714)
 - Acrolein
- MSD (Lab ID: 2475715)
 - Acrolein

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 452216

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2475713)
 - Acrolein

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: December 19, 2016

QC Batch: 452216

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10373467003

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2475714)
 - Acrolein
- MSD (Lab ID: 2475715)
 - Acrolein

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Sample: Lashaw-GW-121516 Lab ID: 10373491001 Collected: 12/15/16 13:00 Received: 12/16/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		12/17/16 03:24	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		12/17/16 03:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		12/17/16 03:24	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		12/17/16 03:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		12/17/16 03:24	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		12/17/16 03:24	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		12/17/16 03:24	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		12/17/16 03:24	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		12/17/16 03:24	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		12/17/16 03:24	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		12/17/16 03:24	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		12/17/16 03:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		12/17/16 03:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		12/17/16 03:24	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		12/17/16 03:24	95-50-1	
1,2-Dichloroethane	0.16J	ug/L	0.50	0.072	1		12/17/16 03:24	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		12/17/16 03:24	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		12/17/16 03:24	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		12/17/16 03:24	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		12/17/16 03:24	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		12/17/16 03:24	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		12/17/16 03:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		12/17/16 03:24	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		12/17/16 03:24	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		12/17/16 03:24	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		12/17/16 03:24	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		12/17/16 03:24	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		12/17/16 03:24	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		12/17/16 03:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		12/17/16 03:24	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		12/17/16 03:24	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		12/17/16 03:24	107-02-8	L3
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		12/17/16 03:24	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		12/17/16 03:24	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		12/17/16 03:24	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		12/17/16 03:24	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		12/17/16 03:24	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		12/17/16 03:24	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		12/17/16 03:24	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		12/17/16 03:24	75-15-0	
Carbon tetrachloride	0.70J	ug/L	1.0	0.079	1		12/17/16 03:24	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		12/17/16 03:24	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		12/17/16 03:24	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		12/17/16 03:24	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		12/17/16 03:24	74-87-3	
Dibromochloromethane	<0.048	ug/L	1.0	0.048	1		12/17/16 03:24	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Sample: Lashaw-GW-121516 **Lab ID: 10373491001** Collected: 12/15/16 13:00 Received: 12/16/16 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		12/17/16 03:24	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		12/17/16 03:24	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		12/17/16 03:24	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		12/17/16 03:24	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		12/17/16 03:24	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		12/17/16 03:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		12/17/16 03:24	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		12/17/16 03:24	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		12/17/16 03:24	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		12/17/16 03:24	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		12/17/16 03:24	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		12/17/16 03:24	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		12/17/16 03:24	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		12/17/16 03:24	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		12/17/16 03:24	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		12/17/16 03:24	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		12/17/16 03:24	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		12/17/16 03:24	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		12/17/16 03:24	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		12/17/16 03:24	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		12/17/16 03:24	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		12/17/16 03:24	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		12/17/16 03:24	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		12/17/16 03:24	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		12/17/16 03:24	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		12/17/16 03:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		12/17/16 03:24	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		12/17/16 03:24	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		12/17/16 03:24	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		12/17/16 03:24	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		12/17/16 03:24	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		12/17/16 03:24	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		12/17/16 03:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		12/17/16 03:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-125		1		12/17/16 03:24	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		12/17/16 03:24	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		12/17/16 03:24	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10373491

QC Batch: 452216 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10373491001

METHOD BLANK: 2475712 Matrix: Water
Associated Lab Samples: 10373491001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	12/17/16 01:05	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	12/17/16 01:05	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	12/17/16 01:05	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	12/17/16 01:05	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	12/17/16 01:05	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	12/17/16 01:05	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	12/17/16 01:05	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	12/17/16 01:05	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	12/17/16 01:05	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	12/17/16 01:05	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	12/17/16 01:05	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	12/17/16 01:05	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	12/17/16 01:05	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	12/17/16 01:05	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	12/17/16 01:05	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	12/17/16 01:05	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	12/17/16 01:05	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	12/17/16 01:05	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	12/17/16 01:05	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	12/17/16 01:05	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	12/17/16 01:05	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	12/17/16 01:05	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	12/17/16 01:05	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	12/17/16 01:05	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	12/17/16 01:05	
2-Hexanone	ug/L	<0.19	5.0	0.19	12/17/16 01:05	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	12/17/16 01:05	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	12/17/16 01:05	
Acetone	ug/L	<0.64	20.0	0.64	12/17/16 01:05	
Acrolein	ug/L	<2.1	10.0	2.1	12/17/16 01:05	
Acrylonitrile	ug/L	<0.49	10.0	0.49	12/17/16 01:05	
Benzene	ug/L	<0.042	0.50	0.042	12/17/16 01:05	
Bromobenzene	ug/L	<0.087	0.50	0.087	12/17/16 01:05	
Bromochloromethane	ug/L	<0.082	1.0	0.082	12/17/16 01:05	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	12/17/16 01:05	
Bromoform	ug/L	<0.11	4.0	0.11	12/17/16 01:05	
Bromomethane	ug/L	<0.20	4.0	0.20	12/17/16 01:05	
Carbon disulfide	ug/L	<0.20	1.0	0.20	12/17/16 01:05	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	12/17/16 01:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10373491

METHOD BLANK: 2475712 Matrix: Water
Associated Lab Samples: 10373491001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	12/17/16 01:05	
Chloroethane	ug/L	<0.12	1.0	0.12	12/17/16 01:05	
Chloroform	ug/L	<0.21	1.0	0.21	12/17/16 01:05	
Chloromethane	ug/L	<0.080	4.0	0.080	12/17/16 01:05	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	12/17/16 01:05	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	12/17/16 01:05	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	12/17/16 01:05	
Dibromomethane	ug/L	<0.14	1.0	0.14	12/17/16 01:05	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	12/17/16 01:05	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	12/17/16 01:05	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	12/17/16 01:05	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	12/17/16 01:05	
Ethylbenzene	ug/L	<0.075	0.50	0.075	12/17/16 01:05	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	12/17/16 01:05	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
m&p-Xylene	ug/L	<0.11	1.0	0.11	12/17/16 01:05	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	12/17/16 01:05	
Methylene Chloride	ug/L	<0.097	4.0	0.097	12/17/16 01:05	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	12/17/16 01:05	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	12/17/16 01:05	
Naphthalene	ug/L	<0.064	4.0	0.064	12/17/16 01:05	
o-Xylene	ug/L	<0.044	0.50	0.044	12/17/16 01:05	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	12/17/16 01:05	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	12/17/16 01:05	
Styrene	ug/L	<0.056	0.50	0.056	12/17/16 01:05	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	12/17/16 01:05	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	12/17/16 01:05	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	12/17/16 01:05	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	12/17/16 01:05	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	12/17/16 01:05	
Toluene	ug/L	<0.059	0.50	0.059	12/17/16 01:05	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	12/17/16 01:05	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	12/17/16 01:05	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	12/17/16 01:05	
Trichloroethene	ug/L	<0.044	0.40	0.044	12/17/16 01:05	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	12/17/16 01:05	
Vinyl acetate	ug/L	<0.12	10.0	0.12	12/17/16 01:05	
Vinyl chloride	ug/L	<0.098	0.20	0.098	12/17/16 01:05	
Xylene (Total)	ug/L	<0.15	1.5	0.15	12/17/16 01:05	
1,2-Dichloroethane-d4 (S)	%	91	75-125		12/17/16 01:05	
4-Bromofluorobenzene (S)	%	99	75-125		12/17/16 01:05	
Toluene-d8 (S)	%	101	75-125		12/17/16 01:05	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

LABORATORY CONTROL SAMPLE: 2475713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.7	99	75-125	
1,1,1-Trichloroethane	ug/L	20	18.7	94	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	98	67-131	
1,1,2-Trichloroethane	ug/L	20	19.0	95	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.7	93	75-125	
1,1-Dichloroethane	ug/L	20	18.4	92	74-125	
1,1-Dichloroethene	ug/L	20	18.0	90	74-125	
1,1-Dichloropropene	ug/L	20	18.1	91	74-125	
1,2,3-Trichlorobenzene	ug/L	20	18.9	94	63-131	
1,2,3-Trichloropropane	ug/L	20	19.7	99	73-125	
1,2,4-Trichlorobenzene	ug/L	20	17.4	87	66-126	
1,2,4-Trimethylbenzene	ug/L	20	20.7	103	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	43.4	87	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	104	75-125	
1,2-Dichlorobenzene	ug/L	20	19.5	98	75-125	
1,2-Dichloroethane	ug/L	20	16.5	83	75-125	
1,2-Dichloroethene (Total)	ug/L	40	36.3	91	75-125	
1,2-Dichloropropane	ug/L	20	17.9	90	75-125	
1,3,5-Trimethylbenzene	ug/L	20	20.9	104	73-127	
1,3-Dichlorobenzene	ug/L	20	19.7	99	75-125	
1,3-Dichloropropane	ug/L	20	19.2	96	69-125	
1,4-Dichlorobenzene	ug/L	20	19.2	96	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	391	98	70-130	
2,2,4-Trimethylpentane	ug/L	20	16.6	83	67-138	
2,2-Dichloropropane	ug/L	20	16.7	84	69-125	
2-Butanone (MEK)	ug/L	100	88.2	88	48-145	
2-Chlorotoluene	ug/L	20	19.2	96	74-125	
2-Hexanone	ug/L	100	94.5	95	63-135	
4-Chlorotoluene	ug/L	20	19.5	97	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.9	95	53-138	
Acetone	ug/L	100	99.5	99	70-142	
Acrolein	ug/L	200	321	160	44-150	CH,L0
Acrylonitrile	ug/L	200	189	94	68-125	
Benzene	ug/L	20	18.8	94	65-125	
Bromobenzene	ug/L	20	19.0	95	75-125	
Bromochloromethane	ug/L	20	19.1	96	75-125	
Bromodichloromethane	ug/L	20	18.0	90	73-125	
Bromoform	ug/L	20	16.3	82	69-125	
Bromomethane	ug/L	20	16.3	81	40-136	
Carbon disulfide	ug/L	20	17.0	85	36-150	
Carbon tetrachloride	ug/L	20	18.9	95	70-125	
Chlorobenzene	ug/L	20	19.4	97	75-125	
Chloroethane	ug/L	20	18.9	95	67-141	
Chloroform	ug/L	20	16.8	84	75-125	
Chloromethane	ug/L	20	17.3	87	50-150	
cis-1,2-Dichloroethene	ug/L	20	18.0	90	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.4	97	75-125	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

LABORATORY CONTROL SAMPLE: 2475713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	18.7	94	75-125	
Dibromomethane	ug/L	20	20.3	101	75-129	
Dichlorodifluoromethane	ug/L	20	16.8	84	59-135	
Dichlorofluoromethane	ug/L	20	18.1	90	74-130	
Diisopropyl ether	ug/L	20	17.5	87	71-125	
Ethyl-tert-butyl ether	ug/L	20	17.7	88	70-130	
Ethylbenzene	ug/L	20	18.6	93	75-125	
Hexachloro-1,3-butadiene	ug/L	20	19.5	97	72-126	
Isopropylbenzene (Cumene)	ug/L	20	21.3	107	71-136	
m&p-Xylene	ug/L	40	41.3	103	75-125	
Methyl-tert-butyl ether	ug/L	20	16.9	84	73-127	
Methylene Chloride	ug/L	20	17.5	88	68-128	
n-Butylbenzene	ug/L	20	18.9	94	70-126	
n-Propylbenzene	ug/L	20	19.7	98	67-131	
Naphthalene	ug/L	20	16.0	80	52-134	
o-Xylene	ug/L	20	21.5	108	75-125	
p-Isopropyltoluene	ug/L	20	21.0	105	74-125	
sec-Butylbenzene	ug/L	20	20.5	103	69-134	
Styrene	ug/L	20	21.2	106	75-125	
tert-Amylmethyl ether	ug/L	20	18.0	90	70-130	
tert-Butyl Alcohol	ug/L	200	173	86	66-128	
tert-Butylbenzene	ug/L	20	19.3	96	71-128	
Tetrachloroethene	ug/L	20	21.1	105	74-125	
Tetrahydrofuran	ug/L	200	194	97	64-142	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.3	91	73-125	
trans-1,3-Dichloropropene	ug/L	20	19.5	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	31.8	64	54-133	
Trichloroethene	ug/L	20	20.6	103	75-125	
Trichlorofluoromethane	ug/L	20	18.0	90	75-126	
Vinyl acetate	ug/L	20	18.8	94	67-126	
Vinyl chloride	ug/L	20	17.2	86	72-125	
Xylene (Total)	ug/L	60	62.8	105	75-125	
1,2-Dichloroethane-d4 (S)	%			91	75-125	
4-Bromofluorobenzene (S)	%			95	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2475714 2475715

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10373467003 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	22.9	23.4	115	117	75-127	2	30	
1,1,1-Trichloroethane	ug/L	<0.057	20	20	22.8	22.3	114	111	66-142	2	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	21.0	21.4	105	107	70-131	2	30	
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20.6	21.6	103	108	75-128	5	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10373491

Parameter	Units	10373467003		MSD		MSD		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2475714 2475715													
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	23.6	24.6	118	123	54-150	4	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	21.0	20.7	105	103	58-147	2	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	22.0	21.9	110	109	49-150	1	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	21.8	22.1	109	110	58-147	1	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	21.6	21.8	108	109	57-139	1	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	22.0	20.7	110	103	71-127	6	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	21.4	21.0	107	105	55-136	2	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	23.8	23.6	119	118	67-138	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	44.3	46.7	89	93	63-136	5	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	22.7	22.1	113	111	74-125	3	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	21.7	22.4	109	112	75-125	3	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.1	17.9	91	90	63-133	1	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	42.1	42.9	105	107	55-146	2	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.8	21.0	104	105	63-138	1	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	24.2	24.0	121	120	69-136	1	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	22.7	22.7	114	114	75-125	0	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	20.7	21.1	104	106	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	21.6	22.0	108	110	70-126	2	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	430	429	108	107	54-145	0	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	20.3	20.6	102	103	30-150	1	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	20.1	20.2	100	101	39-148	0	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	90.6	86.1	91	86	50-144	5	30		
2-Chlorotoluene	ug/L	<0.084	20	20	22.2	22.2	111	111	71-135	0	30		
2-Hexanone	ug/L	<0.19	100	100	103	101	103	101	43-150	3	30		
4-Chlorotoluene	ug/L	<0.048	20	20	22.4	21.8	112	109	71-131	3	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	102	99.6	102	100	60-147	3	30		
Acetone	ug/L	5.9J	100	100	104	103	98	97	59-150	1	30		
Acrolein	ug/L	<2.1	200	200	340	329	170	164	30-150	3	30	CH,M0	
Acrylonitrile	ug/L	<0.49	200	200	191	192	96	96	41-148	0	30		
Benzene	ug/L	<0.042	20	20	21.9	22.1	110	110	61-138	1	30		
Bromobenzene	ug/L	<0.087	20	20	22.6	23.0	113	115	74-130	2	30		
Bromochloromethane	ug/L	<0.082	20	20	22.1	20.9	111	104	65-137	6	30		
Bromodichloromethane	ug/L	<0.068	20	20	20.4	20.2	102	101	66-136	1	30		
Bromoform	ug/L	<0.11	20	20	16.6	17.7	83	88	71-125	6	30		
Bromomethane	ug/L	<0.20	20	20	18.5	21.0	92	105	30-150	13	30		
Carbon disulfide	ug/L	<0.20	20	20	18.5	19.1	92	96	30-150	3	30		
Carbon tetrachloride	ug/L	<0.079	20	20	23.9	24.1	119	121	68-140	1	30		
Chlorobenzene	ug/L	<0.066	20	20	22.1	22.1	110	110	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	21.4	20.6	107	103	55-150	4	30		
Chloroform	ug/L	<0.21	20	20	20.0	19.9	100	99	64-139	1	30		
Chloromethane	ug/L	<0.080	20	20	21.5	21.4	107	107	73-150	1	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	20.6	21.0	103	105	62-138	2	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	20.9	21.5	104	107	70-125	3	30		
Dibromochloromethane	ug/L	<0.048	20	20	20.0	20.9	100	104	74-125	4	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10373491

Parameter	Units	2475714		2475715		MS % Rec	MSD % Rec	% Rec	Limits	RPD	Max RPD	Qual
		10373467003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	<0.14	20	20	22.1	22.0	110	110	66-138	0	30	
Dichlorodifluoromethane	ug/L	<0.075	20	20	21.8	22.4	109	112	53-150	2	30	
Dichlorofluoromethane	ug/L	<0.054	20	20	21.3	20.4	106	102	58-150	4	30	
Diisopropyl ether	ug/L	<0.050	20	20	19.8	19.7	99	99	50-139	1	30	
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	19.8	19.9	99	99	30-140	1	30	
Ethylbenzene	ug/L	<0.075	20	20	21.7	21.7	109	108	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	22.9	24.2	114	121	63-139	6	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	24.9	24.5	125	123	65-146	2	30	
m&p-Xylene	ug/L	<0.11	40	40	46.7	47.8	117	120	72-142	2	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.3	19.0	97	95	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	19.8	19.6	99	98	49-143	1	30	
n-Butylbenzene	ug/L	<0.16	20	20	23.3	23.7	117	119	67-134	2	30	
n-Propylbenzene	ug/L	<0.049	20	20	23.2	23.2	116	116	62-142	0	30	
Naphthalene	ug/L	<0.064	20	20	18.6	18.9	93	95	41-150	2	30	
o-Xylene	ug/L	<0.044	20	20	24.3	25.0	121	125	66-138	3	30	
p-Isopropyltoluene	ug/L	0.21J	20	20	25.1	25.3	124	125	64-137	1	30	
sec-Butylbenzene	ug/L	<0.094	20	20	24.2	24.4	121	122	65-142	1	30	
Styrene	ug/L	<0.056	20	20	23.9	23.7	120	118	61-142	1	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.7	19.5	98	98	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	234	205	117	103	59-138	13	30	
tert-Butylbenzene	ug/L	<0.051	20	20	22.5	22.8	113	114	69-135	1	30	
Tetrachloroethene	ug/L	<0.13	20	20	24.3	24.4	121	122	62-142	1	30	
Tetrahydrofuran	ug/L	<1.5	200	200	219	206	109	103	55-150	6	30	
Toluene	ug/L	<0.059	20	20	22.7	22.6	113	113	66-132	0	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	21.4	21.9	107	109	48-150	2	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	21.0	21.5	105	108	65-130	3	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	24.2	29.6	48	59	31-150	20	30	
Trichloroethene	ug/L	<0.044	20	20	24.9	24.8	124	124	64-142	0	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	23.1	22.7	115	114	63-150	1	30	
Vinyl acetate	ug/L	<0.12	20	20	20.3	19.3	102	97	30-150	5	30	
Vinyl chloride	ug/L	<0.098	20	20	21.6	21.3	108	107	58-150	1	30	
Xylene (Total)	ug/L	<0.15	60	60	71.0	72.8	118	121	70-140	3	30	
1,2-Dichloroethane-d4 (S)	%						91	89	75-125			
4-Bromofluorobenzene (S)	%						95	94	75-125			
Toluene-d8 (S)	%						99	100	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10373491

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10373491001	Lashaw-GW-121516	EPA 8260B	452216		


REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill UPRR

Project #: **WO#: 10373491**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7096 3376 8027

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer 151401163 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: 151401164

Cooler Temp Read (°C): 0.3 Cooler Temp Corrected (°C): 0.3 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: me Date and Initials of Person Examining Contents: Rh 12-16-16

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		7. <u>24 hr.</u>
Sufficient Volume (triple volume provided for MS/MSD)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water), DOC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): _____			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>11:35</u> Temp: <u>0.3</u>	Corrected Temp: <u>0.3</u>
Time: <u>11:40</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 12/16/16
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

January 11, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

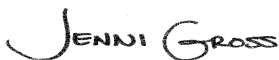
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10375132

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 06, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10375132001	MW18D-17.5-22-010417	Water	01/04/17 13:10	01/06/17 14:00
10375132002	Trip Blanks	Water	01/04/17 17:00	01/06/17 14:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10375132

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10375132001	MW18D-17.5-22-010417	EPA 8260B	DJB	83	PASI-M
10375132002	Trip Blanks	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10375132001	MW18D-17.5-22-010417					
EPA 8260B	Acetone	2.1J	ug/L	20.0	01/07/17 23:37	
10375132002	Trip Blanks					
EPA 8260B	Acetone	2.1J	ug/L	20.0	01/07/17 20:12	
EPA 8260B	Toluene	0.070J	ug/L	0.50	01/07/17 20:12	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 11, 2017

General Information:

2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Sample: MW18D-17.5-22-010417 **Lab ID: 10375132001** Collected: 01/04/17 13:10 Received: 01/06/17 14:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	1.0	0.064	1		01/07/17 23:37	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/07/17 23:37	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/07/17 23:37	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/07/17 23:37	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/07/17 23:37	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/07/17 23:37	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/07/17 23:37	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/07/17 23:37	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/07/17 23:37	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/07/17 23:37	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/07/17 23:37	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/07/17 23:37	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		01/07/17 23:37	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/07/17 23:37	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/07/17 23:37	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/07/17 23:37	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/07/17 23:37	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/07/17 23:37	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/07/17 23:37	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/07/17 23:37	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/07/17 23:37	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/07/17 23:37	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/07/17 23:37	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/07/17 23:37	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/07/17 23:37	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/07/17 23:37	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/07/17 23:37	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/07/17 23:37	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/07/17 23:37	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/07/17 23:37	108-10-1	
Acetone	2.1J	ug/L	20.0	0.64	1		01/07/17 23:37	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/07/17 23:37	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/07/17 23:37	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/07/17 23:37	71-43-2	
Bromobenzene	<0.087	ug/L	1.0	0.087	1		01/07/17 23:37	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/07/17 23:37	74-97-5	
Bromodichloromethane	<0.068	ug/L	1.0	0.068	1		01/07/17 23:37	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/07/17 23:37	75-25-2	
Bromomethane	<0.20	ug/L	10.0	0.20	1		01/07/17 23:37	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/07/17 23:37	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/07/17 23:37	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/07/17 23:37	108-90-7	
Chloroethane	<0.12	ug/L	4.0	0.12	1		01/07/17 23:37	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/07/17 23:37	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/07/17 23:37	74-87-3	
Dibromochloromethane	<0.048	ug/L	4.0	0.048	1		01/07/17 23:37	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Sample: MW18D-17.5-22-010417 Lab ID: 10375132001 Collected: 01/04/17 13:10 Received: 01/06/17 14:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/07/17 23:37	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/07/17 23:37	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/07/17 23:37	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/07/17 23:37	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/07/17 23:37	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/07/17 23:37	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		01/07/17 23:37	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/07/17 23:37	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/07/17 23:37	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/07/17 23:37	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/07/17 23:37	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/07/17 23:37	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/07/17 23:37	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/07/17 23:37	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/07/17 23:37	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/07/17 23:37	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/07/17 23:37	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/07/17 23:37	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/07/17 23:37	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/07/17 23:37	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/07/17 23:37	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/07/17 23:37	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/07/17 23:37	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/07/17 23:37	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/07/17 23:37	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/07/17 23:37	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/07/17 23:37	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/07/17 23:37	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/07/17 23:37	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/07/17 23:37	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/07/17 23:37	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/07/17 23:37	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/07/17 23:37	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/07/17 23:37	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		01/07/17 23:37	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		01/07/17 23:37	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		01/07/17 23:37	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Sample: Trip Blanks **Lab ID: 10375132002** Collected: 01/04/17 17:00 Received: 01/06/17 14:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	1.0	0.064	1		01/07/17 20:12	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/07/17 20:12	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/07/17 20:12	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/07/17 20:12	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/07/17 20:12	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/07/17 20:12	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/07/17 20:12	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/07/17 20:12	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/07/17 20:12	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/07/17 20:12	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/07/17 20:12	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/07/17 20:12	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		01/07/17 20:12	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/07/17 20:12	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/07/17 20:12	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/07/17 20:12	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/07/17 20:12	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/07/17 20:12	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/07/17 20:12	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/07/17 20:12	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/07/17 20:12	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/07/17 20:12	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/07/17 20:12	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/07/17 20:12	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/07/17 20:12	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/07/17 20:12	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/07/17 20:12	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/07/17 20:12	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/07/17 20:12	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/07/17 20:12	108-10-1	
Acetone	2.1J	ug/L	20.0	0.64	1		01/07/17 20:12	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/07/17 20:12	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/07/17 20:12	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/07/17 20:12	71-43-2	
Bromobenzene	<0.087	ug/L	1.0	0.087	1		01/07/17 20:12	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/07/17 20:12	74-97-5	
Bromodichloromethane	<0.068	ug/L	1.0	0.068	1		01/07/17 20:12	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/07/17 20:12	75-25-2	
Bromomethane	<0.20	ug/L	10.0	0.20	1		01/07/17 20:12	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/07/17 20:12	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/07/17 20:12	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/07/17 20:12	108-90-7	
Chloroethane	<0.12	ug/L	4.0	0.12	1		01/07/17 20:12	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/07/17 20:12	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/07/17 20:12	74-87-3	
Dibromochloromethane	<0.048	ug/L	4.0	0.048	1		01/07/17 20:12	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Sample: Trip Blanks **Lab ID: 10375132002** Collected: 01/04/17 17:00 Received: 01/06/17 14:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/07/17 20:12	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/07/17 20:12	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/07/17 20:12	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/07/17 20:12	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/07/17 20:12	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/07/17 20:12	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		01/07/17 20:12	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/07/17 20:12	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/07/17 20:12	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/07/17 20:12	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/07/17 20:12	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/07/17 20:12	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/07/17 20:12	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/07/17 20:12	109-99-9	
Toluene	0.070J	ug/L	0.50	0.059	1		01/07/17 20:12	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/07/17 20:12	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/07/17 20:12	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/07/17 20:12	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/07/17 20:12	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/07/17 20:12	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/07/17 20:12	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/07/17 20:12	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/07/17 20:12	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/07/17 20:12	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/07/17 20:12	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/07/17 20:12	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/07/17 20:12	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/07/17 20:12	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/07/17 20:12	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/07/17 20:12	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/07/17 20:12	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/07/17 20:12	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/07/17 20:12	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/07/17 20:12	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		01/07/17 20:12	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		01/07/17 20:12	2037-26-5	
4-Bromofluorobenzene (S)	110	%	75-125		1		01/07/17 20:12	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

QC Batch: 454763

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260 MSV LL Water

Associated Lab Samples: 10375132001, 10375132002

METHOD BLANK: 2488315

Matrix: Water

Associated Lab Samples: 10375132001, 10375132002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	1.0	0.064	01/07/17 18:54	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	01/07/17 18:54	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	01/07/17 18:54	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	01/07/17 18:54	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	01/07/17 18:54	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	01/07/17 18:54	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	01/07/17 18:54	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	01/07/17 18:54	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	01/07/17 18:54	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	01/07/17 18:54	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	01/07/17 18:54	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	01/07/17 18:54	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	10.0	0.60	01/07/17 18:54	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	01/07/17 18:54	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	01/07/17 18:54	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	01/07/17 18:54	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	01/07/17 18:54	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	01/07/17 18:54	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	01/07/17 18:54	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	01/07/17 18:54	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	01/07/17 18:54	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	01/07/17 18:54	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	01/07/17 18:54	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	01/07/17 18:54	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	01/07/17 18:54	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	01/07/17 18:54	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	01/07/17 18:54	
2-Hexanone	ug/L	<0.19	5.0	0.19	01/07/17 18:54	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	01/07/17 18:54	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	01/07/17 18:54	
Acetone	ug/L	<0.64	20.0	0.64	01/07/17 18:54	
Acrolein	ug/L	<2.1	10.0	2.1	01/07/17 18:54	
Acrylonitrile	ug/L	<0.49	10.0	0.49	01/07/17 18:54	
Benzene	ug/L	<0.042	0.50	0.042	01/07/17 18:54	
Bromobenzene	ug/L	<0.087	1.0	0.087	01/07/17 18:54	
Bromochloromethane	ug/L	<0.082	1.0	0.082	01/07/17 18:54	
Bromodichloromethane	ug/L	<0.068	1.0	0.068	01/07/17 18:54	
Bromoform	ug/L	<0.11	4.0	0.11	01/07/17 18:54	
Bromomethane	ug/L	<0.20	10.0	0.20	01/07/17 18:54	
Carbon disulfide	ug/L	<0.20	1.0	0.20	01/07/17 18:54	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	01/07/17 18:54	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

METHOD BLANK: 2488315

Matrix: Water

Associated Lab Samples: 10375132001, 10375132002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	01/07/17 18:54	
Chloroethane	ug/L	<0.12	4.0	0.12	01/07/17 18:54	
Chloroform	ug/L	<0.21	1.0	0.21	01/07/17 18:54	
Chloromethane	ug/L	<0.080	4.0	0.080	01/07/17 18:54	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	01/07/17 18:54	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	01/07/17 18:54	
Dibromochloromethane	ug/L	<0.048	4.0	0.048	01/07/17 18:54	
Dibromomethane	ug/L	<0.14	1.0	0.14	01/07/17 18:54	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	01/07/17 18:54	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	01/07/17 18:54	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	01/07/17 18:54	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	01/07/17 18:54	
Ethylbenzene	ug/L	<0.075	0.50	0.075	01/07/17 18:54	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	01/07/17 18:54	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	01/07/17 18:54	
m&p-Xylene	ug/L	<0.11	1.0	0.11	01/07/17 18:54	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	01/07/17 18:54	
Methylene Chloride	ug/L	<0.097	4.0	0.097	01/07/17 18:54	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	01/07/17 18:54	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	01/07/17 18:54	
Naphthalene	ug/L	0.15J	1.0	0.064	01/07/17 18:54	
o-Xylene	ug/L	<0.044	0.50	0.044	01/07/17 18:54	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	01/07/17 18:54	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	01/07/17 18:54	
Styrene	ug/L	<0.056	0.50	0.056	01/07/17 18:54	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	01/07/17 18:54	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	01/07/17 18:54	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	01/07/17 18:54	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	01/07/17 18:54	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	01/07/17 18:54	
Toluene	ug/L	<0.059	0.50	0.059	01/07/17 18:54	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	01/07/17 18:54	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	01/07/17 18:54	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	01/07/17 18:54	
Trichloroethene	ug/L	<0.044	0.40	0.044	01/07/17 18:54	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	01/07/17 18:54	
Vinyl acetate	ug/L	<0.12	10.0	0.12	01/07/17 18:54	
Vinyl chloride	ug/L	<0.098	0.20	0.098	01/07/17 18:54	
Xylene (Total)	ug/L	<0.15	1.5	0.15	01/07/17 18:54	
1,2-Dichloroethane-d4 (S)	%	101	75-125		01/07/17 18:54	
4-Bromofluorobenzene (S)	%	107	75-125		01/07/17 18:54	
Toluene-d8 (S)	%	98	75-125		01/07/17 18:54	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

LABORATORY CONTROL SAMPLE & LCSD: 2488316		2488317									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.4	20.6	102	103	75-125	1	30		
1,1,1-Trichloroethane	ug/L	20	19.7	19.3	99	97	74-125	2	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	21.8	101	109	67-131	7	30		
1,1,2-Trichloroethane	ug/L	20	19.9	20.1	100	101	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.2	18.9	96	95	75-125	1	30		
1,1-Dichloroethane	ug/L	20	19.1	18.6	95	93	74-125	2	30		
1,1-Dichloroethene	ug/L	20	19.9	20.4	100	102	74-125	2	30		
1,1-Dichloropropene	ug/L	20	20.2	20.4	101	102	74-125	1	30		
1,2,3-Trichlorobenzene	ug/L	20	19.1	21.4	95	107	63-131	12	30		
1,2,3-Trichloropropane	ug/L	20	21.5	23.1	107	116	73-125	8	30		
1,2,4-Trichlorobenzene	ug/L	20	19.0	18.4	95	92	66-126	3	30		
1,2,4-Trimethylbenzene	ug/L	20	20.2	20.0	101	100	74-129	1	30		
1,2-Dibromo-3-chloropropane	ug/L	50	50.0	55.0	100	110	54-129	10	30		
1,2-Dibromoethane (EDB)	ug/L	20	19.5	20.2	98	101	75-125	3	30		
1,2-Dichlorobenzene	ug/L	20	20.7	20.0	103	100	75-125	3	30		
1,2-Dichloroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,2-Dichloroethene (Total)	ug/L	40	37.1	36.1	93	90	75-125	3	30		
1,2-Dichloropropane	ug/L	20	21.2	19.3	106	97	75-125	9	30		
1,3,5-Trimethylbenzene	ug/L	20	19.2	18.9	96	94	73-127	2	30		
1,3-Dichlorobenzene	ug/L	20	19.3	18.9	97	95	75-125	2	30		
1,3-Dichloropropane	ug/L	20	20.2	19.9	101	100	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	19.4	18.2	97	91	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	408	393	102	98	70-130	4	30		
2,2,4-Trimethylpentane	ug/L	20	19.6	20.1	98	100	67-138	2	30		
2,2-Dichloropropane	ug/L	20	20.1	19.7	100	98	69-125	2	30		
2-Butanone (MEK)	ug/L	100	96.6	112	97	112	48-145	15	30		
2-Chlorotoluene	ug/L	20	20.2	19.8	101	99	74-125	2	30		
2-Hexanone	ug/L	100	107	128	107	128	63-135	18	30		
4-Chlorotoluene	ug/L	20	20.6	20.2	103	101	73-125	2	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	122	106	122	53-138	14	30		
Acetone	ug/L	100	102	88.5	102	88	70-142	14	30		
Acrolein	ug/L	200	195	219	97	109	44-150	11	30		
Acrylonitrile	ug/L	200	203	224	102	112	68-125	10	30		
Benzene	ug/L	20	18.0	17.7	90	89	65-125	1	30		
Bromobenzene	ug/L	20	18.9	18.4	95	92	75-125	3	30		
Bromochloromethane	ug/L	20	19.6	19.7	98	98	75-125	0	30		
Bromodichloromethane	ug/L	20	21.2	20.6	106	103	73-125	3	30		
Bromoform	ug/L	20	17.8	19.6	89	98	69-125	10	30		
Bromomethane	ug/L	20	20.9	22.4	105	112	40-136	7	30		
Carbon disulfide	ug/L	20	18.0	18.1	90	90	36-150	0	30		
Carbon tetrachloride	ug/L	20	21.5	20.9	108	105	70-125	3	30		
Chlorobenzene	ug/L	20	19.2	19.3	96	96	75-125	0	30		
Chloroethane	ug/L	20	21.5	19.3	107	97	67-141	10	30		
Chloroform	ug/L	20	19.3	17.9	97	90	75-125	8	30		
Chloromethane	ug/L	20	19.3	19.9	96	99	50-150	3	30		
cis-1,2-Dichloroethene	ug/L	20	18.6	17.9	93	89	75-125	4	30		
cis-1,3-Dichloropropene	ug/L	20	21.0	20.4	105	102	75-125	3	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

LABORATORY CONTROL SAMPLE & LCSD: 2488316		2488317								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	18.9	19.3	95	96	75-125	2	30	
Dibromomethane	ug/L	20	21.2	20.8	106	104	75-129	2	30	
Dichlorodifluoromethane	ug/L	20	18.0	19.2	90	96	59-135	7	30	
Dichlorofluoromethane	ug/L	20	19.8	19.9	99	99	74-130	0	30	
Diisopropyl ether	ug/L	20	20.5	19.6	102	98	71-125	4	30	
Ethyl-tert-butyl ether	ug/L	20	21.5	20.8	107	104	70-130	3	30	
Ethylbenzene	ug/L	20	19.4	19.6	97	98	75-125	1	30	
Hexachloro-1,3-butadiene	ug/L	20	17.7	19.7	88	99	72-126	11	30	
Isopropylbenzene (Cumene)	ug/L	20	19.9	19.4	99	97	71-136	2	30	
m&p-Xylene	ug/L	40	39.1	38.2	98	95	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	20.1	20.0	100	100	73-127	0	30	
Methylene Chloride	ug/L	20	20.5	20.7	103	104	68-128	1	30	
n-Butylbenzene	ug/L	20	20.4	20.7	102	103	70-126	1	30	
n-Propylbenzene	ug/L	20	20.0	19.5	100	98	67-131	2	30	
Naphthalene	ug/L	20	19.1	21.2	95	106	52-134	10	30	
o-Xylene	ug/L	20	19.8	20.0	99	100	75-125	1	30	
p-Isopropyltoluene	ug/L	20	19.6	19.0	98	95	74-125	3	30	
sec-Butylbenzene	ug/L	20	20.8	20.1	104	100	69-134	4	30	
Styrene	ug/L	20	20.4	20.5	102	102	75-125	1	30	
tert-Amylmethyl ether	ug/L	20	21.0	20.2	105	101	70-130	4	30	
tert-Butyl Alcohol	ug/L	200	172	195	86	98	66-128	13	30	
tert-Butylbenzene	ug/L	20	20.1	18.8	100	94	71-128	7	30	
Tetrachloroethene	ug/L	20	19.0	18.9	95	95	74-125	0	30	
Tetrahydrofuran	ug/L	200	198	188	99	94	64-142	5	30	
Toluene	ug/L	20	19.9	19.3	100	97	75-125	3	30	
trans-1,2-Dichloroethene	ug/L	20	18.5	18.2	92	91	73-125	1	30	
trans-1,3-Dichloropropene	ug/L	20	21.5	20.7	108	103	75-125	4	30	
trans-1,4-Dichloro-2-butene	ug/L	50	63.8	59.6	128	119	54-133	7	30	
Trichloroethene	ug/L	20	20.2	19.0	101	95	75-125	6	30	
Trichlorofluoromethane	ug/L	20	20.8	20.0	104	100	75-126	4	30	
Vinyl acetate	ug/L	20	20.5	20.7	102	103	67-126	1	30	
Vinyl chloride	ug/L	20	22.1	21.0	111	105	72-125	5	30	
Xylene (Total)	ug/L	60	58.9	58.2	98	97	75-125	1	30	
1,2-Dichloroethane-d4 (S)	%				100	102	75-125			
4-Bromofluorobenzene (S)	%				100	100	75-125			
Toluene-d8 (S)	%				100	101	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2488327		2488328											
Parameter	Units	10375148002		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	20	24.4	24.1	122	120	75-127	1
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20	23.9	23.8	120	119	66-142	0	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	20	24.4	25.2	122	126	70-131	3	30	
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20	23.2	23.4	116	117	75-128	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375132

Parameter	Units	10375148002		MS		MSD		MS		MSD		% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec							
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2488327																
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	25.8	25.4	129	127	54-150	1	30					
1,1-Dichloroethane	ug/L	<0.055	20	20	22.3	21.8	112	109	58-147	2	30					
1,1-Dichloroethene	ug/L	<0.069	20	20	24.3	25.7	121	129	49-150	6	30					
1,1-Dichloropropene	ug/L	<0.082	20	20	24.2	25.0	121	125	58-147	3	30					
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	24.6	23.7	123	118	57-139	4	30					
1,2,3-Trichloropropane	ug/L	<0.19	20	20	24.6	24.7	123	124	71-127	0	30					
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	22.0	22.9	110	115	55-136	4	30					
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	23.6	24.5	118	123	67-138	4	30					
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	55.4	53.1	111	106	63-136	4	30					
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	22.1	22.4	110	112	74-125	2	30					
1,2-Dichlorobenzene	ug/L	<0.078	20	20	23.8	24.8	119	124	75-125	4	30					
1,2-Dichloroethane	ug/L	<0.072	20	20	20.8	20.4	104	102	63-133	2	30					
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	43.3	44.7	108	112	55-146	3	30					
1,2-Dichloropropane	ug/L	<0.066	20	20	23.9	23.9	120	119	63-138	0	30					
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	23.0	23.1	115	115	69-136	0	30					
1,3-Dichlorobenzene	ug/L	<0.085	20	20	23.1	23.5	115	118	75-125	2	30					
1,3-Dichloropropane	ug/L	<0.059	20	20	22.8	22.5	114	112	65-135	1	30					
1,4-Dichlorobenzene	ug/L	<0.081	20	20	21.8	22.5	109	112	70-126	3	30					
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	450	429	113	107	54-145	5	30					
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	26.2	25.4	131	127	30-150	3	30					
2,2-Dichloropropane	ug/L	<0.096	20	20	24.6	23.8	123	119	39-148	3	30					
2-Butanone (MEK)	ug/L	<1.1	100	100	103	101	103	101	50-144	2	30					
2-Chlorotoluene	ug/L	<0.084	20	20	23.5	24.9	117	125	71-135	6	30					
2-Hexanone	ug/L	<0.19	100	100	125	120	125	120	43-150	4	30					
4-Chlorotoluene	ug/L	<0.048	20	20	23.8	24.9	119	124	71-131	4	30					
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	123	119	123	119	60-147	3	30					
Acetone	ug/L	3.1J	100	100	116	114	113	111	59-150	1	30					
Acrolein	ug/L	<2.1	200	200	174	180	87	90	30-150	3	30					
Acrylonitrile	ug/L	<0.49	200	200	216	212	108	106	41-148	2	30					
Benzene	ug/L	<0.042	20	20	21.0	21.2	105	106	61-138	1	30					
Bromobenzene	ug/L	<0.087	20	20	22.1	23.8	111	119	74-130	7	30					
Bromochloromethane	ug/L	<0.082	20	20	22.8	23.2	114	116	65-137	2	30					
Bromodichloromethane	ug/L	<0.068	20	20	23.4	23.0	117	115	66-136	2	30					
Bromoform	ug/L	<0.11	20	20	19.4	18.6	97	93	71-125	4	30					
Bromomethane	ug/L	<0.20	20	20	24.5	26.1	122	131	30-150	7	30					
Carbon disulfide	ug/L	<0.20	20	20	21.2	20.6	106	103	30-150	3	30					
Carbon tetrachloride	ug/L	<0.079	20	20	26.4	26.9	132	134	68-140	2	30					
Chlorobenzene	ug/L	<0.066	20	20	22.3	22.2	111	111	75-132	0	30					
Chloroethane	ug/L	<0.12	20	20	23.2	21.0	116	105	55-150	10	30					
Chloroform	ug/L	<0.21	20	20	22.2	22.0	111	110	64-139	1	30					
Chloromethane	ug/L	<0.080	20	20	22.1	22.1	111	110	73-150	0	30					
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	21.0	21.5	105	107	62-138	2	30					
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	23.2	23.3	116	117	70-125	0	30					
Dibromochloromethane	ug/L	<0.048	20	20	21.6	20.3	108	101	74-125	6	30					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375132

Parameter	Units	2488327		2488328		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Dibromomethane	ug/L	<0.14	20	20	23.9	24.3	120	121	66-138	1	30	
Dichlorodifluoromethane	ug/L	<0.075	20	20	24.7	21.7	123	109	53-150	13	30	
Dichlorofluoromethane	ug/L	<0.054	20	20	22.6	21.6	113	108	58-150	4	30	
Diisopropyl ether	ug/L	<0.050	20	20	23.1	23.2	116	116	50-139	0	30	
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	24.3	24.0	121	120	30-140	1	30	
Ethylbenzene	ug/L	<0.075	20	20	22.9	22.6	114	113	66-141	1	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	24.7	25.0	123	125	63-139	2	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	22.4	22.4	112	112	65-146	0	30	
m&p-Xylene	ug/L	<0.11	40	40	44.3	45.1	111	113	72-142	2	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	22.2	21.3	111	107	63-134	4	30	
Methylene Chloride	ug/L	<0.097	20	20	22.5	22.5	113	113	49-143	0	30	
n-Butylbenzene	ug/L	<0.16	20	20	25.1	25.9	125	129	67-134	3	30	
n-Propylbenzene	ug/L	<0.049	20	20	23.7	24.3	119	122	62-142	3	30	
Naphthalene	ug/L	<0.064	20	20	23.2	23.4	116	117	41-150	1	30	
o-Xylene	ug/L	<0.044	20	20	23.5	22.9	118	115	66-138	3	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	22.4	23.7	112	118	64-137	6	30	
sec-Butylbenzene	ug/L	<0.094	20	20	24.7	25.7	124	128	65-142	4	30	
Styrene	ug/L	<0.056	20	20	23.8	23.8	119	119	61-142	0	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	23.1	23.2	115	116	65-125	0	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	243	250	122	125	59-138	3	30	
tert-Butylbenzene	ug/L	<0.051	20	20	23.3	23.6	116	118	69-135	1	30	
Tetrachloroethene	ug/L	<0.13	20	20	22.9	22.7	115	114	62-142	1	30	
Tetrahydrofuran	ug/L	<1.5	200	200	223	226	111	113	55-150	1	30	
Toluene	ug/L	<0.059	20	20	22.7	23.3	114	116	66-132	2	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	22.3	23.2	111	116	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	23.3	23.6	116	118	65-130	1	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	57.4	59.8	115	120	31-150	4	30	
Trichloroethene	ug/L	<0.044	20	20	22.8	23.9	114	119	64-142	4	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	26.6	23.9	133	120	63-150	10	30	
Vinyl acetate	ug/L	<0.12	20	20	22.7	22.6	114	113	30-150	1	30	
Vinyl chloride	ug/L	<0.098	20	20	24.5	24.4	123	122	58-150	0	30	
Xylene (Total)	ug/L	<0.15	60	60	67.8	68.0	113	113	70-140	0	30	
1,2-Dichloroethane-d4 (S)	%						100	98	75-125			
4-Bromofluorobenzene (S)	%						106	105	75-125			
Toluene-d8 (S)	%						101	102	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375132

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10375132001	MW18D-17.5-22-010417	EPA 8260B	454763		
10375132002	Trip Blanks	EPA 8260B	454763		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill Project #: WO# : 10375132

WO# : 10375132



10375132

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer 151401163 Used: 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.9 Cooler Temp Corrected (°C): 0.8 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: -0.1 Date and Initials of Person Examining Contents: CH/16/17

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: <u>VOA</u> , Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14. <u>1/2 TB</u>
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>090516-332A</u>		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>19:20</u>	Temp: <u>0.9</u>	Corrected Temp: <u>0.8</u>
Time: <u>19:25</u>	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review: JENNI GRASS Date: 01/09/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

January 13, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

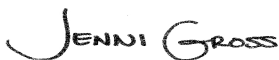
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10375378

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10375378001	MW18D-80-85-010617	Water	01/06/17 14:25	01/10/17 11:20
10375378002	MW50D-80-85-010617	Water	01/06/17 15:00	01/10/17 11:20
10375378003	TRIP BLANK	Water	01/06/17 09:00	01/10/17 11:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10375378001	MW18D-80-85-010617	EPA 8260B	DJB	83	PASI-M
10375378002	MW50D-80-85-010617	EPA 8260B	DJB	83	PASI-M
10375378003	TRIP BLANK	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10375378001	MW18D-80-85-010617					
EPA 8260B	2-Hexanone	0.50J	ug/L	5.0	01/11/17 20:02	
10375378002	MW50D-80-85-010617					
EPA 8260B	2-Hexanone	0.57J	ug/L	5.0	01/11/17 20:24	
10375378003	TRIP BLANK					
EPA 8260B	Methylene Chloride	0.75J	ug/L	4.0	01/11/17 14:08	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Date: January 13, 2017

The samples were received within the required temperature range, however all vials received were partially frozen. Analysis was completed upon client approval.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 13, 2017

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Sample: MW18D-80-85-010617 Lab ID: 10375378001 Collected: 01/06/17 14:25 Received: 01/10/17 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/11/17 20:02	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/11/17 20:02	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/11/17 20:02	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/11/17 20:02	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/11/17 20:02	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/11/17 20:02	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/11/17 20:02	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/11/17 20:02	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/11/17 20:02	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/11/17 20:02	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/11/17 20:02	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/11/17 20:02	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/11/17 20:02	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/11/17 20:02	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/11/17 20:02	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/11/17 20:02	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/11/17 20:02	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/11/17 20:02	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/11/17 20:02	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/11/17 20:02	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/11/17 20:02	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/11/17 20:02	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/11/17 20:02	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/11/17 20:02	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/11/17 20:02	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/11/17 20:02	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/11/17 20:02	95-49-8	
2-Hexanone	0.50J	ug/L	5.0	0.19	1		01/11/17 20:02	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/11/17 20:02	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/11/17 20:02	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/11/17 20:02	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/11/17 20:02	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/11/17 20:02	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/11/17 20:02	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/11/17 20:02	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/11/17 20:02	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/11/17 20:02	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/11/17 20:02	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/11/17 20:02	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/11/17 20:02	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/11/17 20:02	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/11/17 20:02	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/11/17 20:02	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/11/17 20:02	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/11/17 20:02	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/11/17 20:02	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Sample: MW18D-80-85-010617 Lab ID: 10375378001 Collected: 01/06/17 14:25 Received: 01/10/17 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/11/17 20:02	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/11/17 20:02	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/11/17 20:02	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/11/17 20:02	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/11/17 20:02	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/11/17 20:02	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/11/17 20:02	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/11/17 20:02	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/11/17 20:02	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/11/17 20:02	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/11/17 20:02	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/11/17 20:02	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/11/17 20:02	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/11/17 20:02	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/11/17 20:02	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/11/17 20:02	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/11/17 20:02	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/11/17 20:02	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/11/17 20:02	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/11/17 20:02	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/11/17 20:02	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/11/17 20:02	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/11/17 20:02	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/11/17 20:02	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/11/17 20:02	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/11/17 20:02	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/11/17 20:02	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/11/17 20:02	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/11/17 20:02	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/11/17 20:02	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/11/17 20:02	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/11/17 20:02	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/11/17 20:02	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/11/17 20:02	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		01/11/17 20:02	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		01/11/17 20:02	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		01/11/17 20:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Sample: MW50D-80-85-010617 Lab ID: 10375378002 Collected: 01/06/17 15:00 Received: 01/10/17 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/11/17 20:24	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/11/17 20:24	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/11/17 20:24	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/11/17 20:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/11/17 20:24	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/11/17 20:24	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/11/17 20:24	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/11/17 20:24	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/11/17 20:24	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/11/17 20:24	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/11/17 20:24	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/11/17 20:24	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/11/17 20:24	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/11/17 20:24	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/11/17 20:24	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/11/17 20:24	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/11/17 20:24	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/11/17 20:24	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/11/17 20:24	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/11/17 20:24	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/11/17 20:24	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/11/17 20:24	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/11/17 20:24	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/11/17 20:24	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/11/17 20:24	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/11/17 20:24	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/11/17 20:24	95-49-8	
2-Hexanone	0.57J	ug/L	5.0	0.19	1		01/11/17 20:24	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/11/17 20:24	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/11/17 20:24	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/11/17 20:24	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/11/17 20:24	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/11/17 20:24	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/11/17 20:24	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/11/17 20:24	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/11/17 20:24	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/11/17 20:24	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/11/17 20:24	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/11/17 20:24	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/11/17 20:24	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/11/17 20:24	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/11/17 20:24	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/11/17 20:24	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/11/17 20:24	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/11/17 20:24	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/11/17 20:24	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Sample: MW50D-80-85-010617 **Lab ID: 10375378002** Collected: 01/06/17 15:00 Received: 01/10/17 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/11/17 20:24	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/11/17 20:24	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/11/17 20:24	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/11/17 20:24	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/11/17 20:24	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/11/17 20:24	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/11/17 20:24	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/11/17 20:24	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/11/17 20:24	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/11/17 20:24	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/11/17 20:24	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/11/17 20:24	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/11/17 20:24	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/11/17 20:24	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/11/17 20:24	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/11/17 20:24	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/11/17 20:24	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/11/17 20:24	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/11/17 20:24	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/11/17 20:24	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/11/17 20:24	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/11/17 20:24	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/11/17 20:24	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/11/17 20:24	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/11/17 20:24	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/11/17 20:24	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/11/17 20:24	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/11/17 20:24	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/11/17 20:24	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/11/17 20:24	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/11/17 20:24	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/11/17 20:24	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/11/17 20:24	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/11/17 20:24	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		01/11/17 20:24	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		01/11/17 20:24	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		01/11/17 20:24	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Sample: TRIP BLANK **Lab ID: 10375378003** Collected: 01/06/17 09:00 Received: 01/10/17 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/11/17 14:08	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/11/17 14:08	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/11/17 14:08	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/11/17 14:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/11/17 14:08	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/11/17 14:08	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/11/17 14:08	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/11/17 14:08	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/11/17 14:08	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/11/17 14:08	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/11/17 14:08	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/11/17 14:08	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/11/17 14:08	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/11/17 14:08	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/11/17 14:08	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/11/17 14:08	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/11/17 14:08	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/11/17 14:08	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/11/17 14:08	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/11/17 14:08	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/11/17 14:08	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/11/17 14:08	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/11/17 14:08	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/11/17 14:08	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/11/17 14:08	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/11/17 14:08	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/11/17 14:08	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/11/17 14:08	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/11/17 14:08	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/11/17 14:08	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/11/17 14:08	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/11/17 14:08	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/11/17 14:08	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/11/17 14:08	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/11/17 14:08	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/11/17 14:08	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/11/17 14:08	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/11/17 14:08	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/11/17 14:08	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/11/17 14:08	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/11/17 14:08	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/11/17 14:08	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/11/17 14:08	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/11/17 14:08	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/11/17 14:08	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/11/17 14:08	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Sample: TRIP BLANK **Lab ID: 10375378003** Collected: 01/06/17 09:00 Received: 01/10/17 11:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/11/17 14:08	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/11/17 14:08	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/11/17 14:08	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/11/17 14:08	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/11/17 14:08	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/11/17 14:08	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/11/17 14:08	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/11/17 14:08	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/11/17 14:08	1634-04-4	
Methylene Chloride	0.75J	ug/L	4.0	0.097	1		01/11/17 14:08	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/11/17 14:08	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/11/17 14:08	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/11/17 14:08	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/11/17 14:08	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/11/17 14:08	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/11/17 14:08	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/11/17 14:08	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/11/17 14:08	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/11/17 14:08	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/11/17 14:08	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/11/17 14:08	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/11/17 14:08	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/11/17 14:08	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/11/17 14:08	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/11/17 14:08	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/11/17 14:08	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/11/17 14:08	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/11/17 14:08	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/11/17 14:08	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/11/17 14:08	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/11/17 14:08	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/11/17 14:08	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/11/17 14:08	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/11/17 14:08	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		01/11/17 14:08	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		01/11/17 14:08	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		01/11/17 14:08	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375378

QC Batch: 455214 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10375378001, 10375378002, 10375378003

METHOD BLANK: 2491039 Matrix: Water
Associated Lab Samples: 10375378001, 10375378002, 10375378003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	01/11/17 13:24	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	01/11/17 13:24	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	01/11/17 13:24	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	01/11/17 13:24	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	01/11/17 13:24	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	01/11/17 13:24	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	01/11/17 13:24	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	01/11/17 13:24	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	01/11/17 13:24	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	01/11/17 13:24	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	01/11/17 13:24	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	01/11/17 13:24	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	01/11/17 13:24	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	01/11/17 13:24	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	01/11/17 13:24	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	01/11/17 13:24	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	01/11/17 13:24	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	01/11/17 13:24	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	01/11/17 13:24	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	01/11/17 13:24	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	01/11/17 13:24	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	01/11/17 13:24	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	01/11/17 13:24	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	01/11/17 13:24	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	01/11/17 13:24	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	01/11/17 13:24	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	01/11/17 13:24	
2-Hexanone	ug/L	<0.19	5.0	0.19	01/11/17 13:24	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	01/11/17 13:24	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	01/11/17 13:24	
Acetone	ug/L	<0.64	20.0	0.64	01/11/17 13:24	
Acrolein	ug/L	<2.1	10.0	2.1	01/11/17 13:24	
Acrylonitrile	ug/L	<0.49	10.0	0.49	01/11/17 13:24	
Benzene	ug/L	<0.042	0.50	0.042	01/11/17 13:24	
Bromobenzene	ug/L	<0.087	0.50	0.087	01/11/17 13:24	
Bromochloromethane	ug/L	<0.082	1.0	0.082	01/11/17 13:24	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	01/11/17 13:24	
Bromoform	ug/L	<0.11	4.0	0.11	01/11/17 13:24	
Bromomethane	ug/L	<0.20	4.0	0.20	01/11/17 13:24	
Carbon disulfide	ug/L	<0.20	1.0	0.20	01/11/17 13:24	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	01/11/17 13:24	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375378

METHOD BLANK: 2491039 Matrix: Water
Associated Lab Samples: 10375378001, 10375378002, 10375378003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	01/11/17 13:24	
Chloroethane	ug/L	<0.12	1.0	0.12	01/11/17 13:24	
Chloroform	ug/L	<0.21	1.0	0.21	01/11/17 13:24	
Chloromethane	ug/L	<0.080	4.0	0.080	01/11/17 13:24	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	01/11/17 13:24	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	01/11/17 13:24	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	01/11/17 13:24	
Dibromomethane	ug/L	<0.14	1.0	0.14	01/11/17 13:24	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	01/11/17 13:24	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	01/11/17 13:24	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	01/11/17 13:24	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	01/11/17 13:24	
Ethylbenzene	ug/L	<0.075	0.50	0.075	01/11/17 13:24	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	01/11/17 13:24	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	01/11/17 13:24	
m&p-Xylene	ug/L	<0.11	1.0	0.11	01/11/17 13:24	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	01/11/17 13:24	
Methylene Chloride	ug/L	<0.097	4.0	0.097	01/11/17 13:24	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	01/11/17 13:24	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	01/11/17 13:24	
Naphthalene	ug/L	<0.064	1.0	0.064	01/11/17 13:24	
o-Xylene	ug/L	<0.044	0.50	0.044	01/11/17 13:24	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	01/11/17 13:24	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	01/11/17 13:24	
Styrene	ug/L	<0.056	0.50	0.056	01/11/17 13:24	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	01/11/17 13:24	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	01/11/17 13:24	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	01/11/17 13:24	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	01/11/17 13:24	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	01/11/17 13:24	
Toluene	ug/L	<0.059	0.50	0.059	01/11/17 13:24	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	01/11/17 13:24	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	01/11/17 13:24	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	01/11/17 13:24	
Trichloroethene	ug/L	<0.044	0.40	0.044	01/11/17 13:24	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	01/11/17 13:24	
Vinyl acetate	ug/L	<0.12	10.0	0.12	01/11/17 13:24	
Vinyl chloride	ug/L	<0.098	0.20	0.098	01/11/17 13:24	
Xylene (Total)	ug/L	<0.15	1.5	0.15	01/11/17 13:24	
1,2-Dichloroethane-d4 (S)	%	96	75-125		01/11/17 13:24	
4-Bromofluorobenzene (S)	%	97	75-125		01/11/17 13:24	
Toluene-d8 (S)	%	101	75-125		01/11/17 13:24	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

LABORATORY CONTROL SAMPLE: 2491040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.4	102	75-125	
1,1,1-Trichloroethane	ug/L	20	18.5	92	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-131	
1,1,2-Trichloroethane	ug/L	20	19.9	99	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.9	100	75-125	
1,1-Dichloroethane	ug/L	20	19.0	95	74-125	
1,1-Dichloroethene	ug/L	20	18.3	92	74-125	
1,1-Dichloropropene	ug/L	20	19.7	99	74-125	
1,2,3-Trichlorobenzene	ug/L	20	21.2	106	63-131	
1,2,3-Trichloropropane	ug/L	20	19.8	99	73-125	
1,2,4-Trichlorobenzene	ug/L	20	20.4	102	66-126	
1,2,4-Trimethylbenzene	ug/L	20	19.0	95	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	49.1	98	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.1	101	75-125	
1,2-Dichlorobenzene	ug/L	20	19.8	99	75-125	
1,2-Dichloroethane	ug/L	20	18.0	90	75-125	
1,2-Dichloroethene (Total)	ug/L	40	37.7	94	75-125	
1,2-Dichloropropane	ug/L	20	20.1	100	75-125	
1,3,5-Trimethylbenzene	ug/L	20	19.6	98	73-127	
1,3-Dichlorobenzene	ug/L	20	20.0	100	75-125	
1,3-Dichloropropane	ug/L	20	19.9	100	69-125	
1,4-Dichlorobenzene	ug/L	20	20.0	100	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	352	88	70-130	
2,2,4-Trimethylpentane	ug/L	20	19.2	96	67-138	
2,2-Dichloropropane	ug/L	20	18.3	92	69-125	
2-Butanone (MEK)	ug/L	100	86.0	86	48-145	
2-Chlorotoluene	ug/L	20	19.7	99	74-125	
2-Hexanone	ug/L	100	90.7	91	63-135	
4-Chlorotoluene	ug/L	20	19.1	96	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.5	91	53-138	
Acetone	ug/L	100	91.8	92	70-142	
Acrolein	ug/L	200	183	92	44-150	
Acrylonitrile	ug/L	200	184	92	68-125	
Benzene	ug/L	20	18.0	90	65-125	
Bromobenzene	ug/L	20	20.5	103	75-125	
Bromochloromethane	ug/L	20	20.1	100	75-125	
Bromodichloromethane	ug/L	20	19.8	99	73-125	
Bromoform	ug/L	20	18.3	91	69-125	
Bromomethane	ug/L	20	17.4	87	40-136	
Carbon disulfide	ug/L	20	18.1	90	36-150	
Carbon tetrachloride	ug/L	20	18.8	94	70-125	
Chlorobenzene	ug/L	20	19.7	98	75-125	
Chloroethane	ug/L	20	19.0	95	67-141	
Chloroform	ug/L	20	17.9	89	75-125	
Chloromethane	ug/L	20	19.3	96	50-150	
cis-1,2-Dichloroethene	ug/L	20	18.9	95	75-125	
cis-1,3-Dichloropropene	ug/L	20	19.1	96	75-125	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

LABORATORY CONTROL SAMPLE: 2491040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	20.1	101	75-125	
Dibromomethane	ug/L	20	19.7	99	75-129	
Dichlorodifluoromethane	ug/L	20	19.2	96	59-135	
Dichlorofluoromethane	ug/L	20	18.9	94	74-130	
Diisopropyl ether	ug/L	20	17.6	88	71-125	
Ethyl-tert-butyl ether	ug/L	20	18.9	94	70-130	
Ethylbenzene	ug/L	20	18.7	94	75-125	
Hexachloro-1,3-butadiene	ug/L	20	21.0	105	72-126	
Isopropylbenzene (Cumene)	ug/L	20	19.1	96	71-136	
m&p-Xylene	ug/L	40	38.7	97	75-125	
Methyl-tert-butyl ether	ug/L	20	18.4	92	73-127	
Methylene Chloride	ug/L	20	19.4	97	68-128	
n-Butylbenzene	ug/L	20	19.5	98	70-126	
n-Propylbenzene	ug/L	20	19.0	95	67-131	
Naphthalene	ug/L	20	19.3	97	52-134	
o-Xylene	ug/L	20	19.5	98	75-125	
p-Isopropyltoluene	ug/L	20	19.4	97	74-125	
sec-Butylbenzene	ug/L	20	19.5	97	69-134	
Styrene	ug/L	20	19.8	99	75-125	
tert-Amylmethyl ether	ug/L	20	18.2	91	70-130	
tert-Butyl Alcohol	ug/L	200	163	81	66-128	
tert-Butylbenzene	ug/L	20	19.3	97	71-128	
Tetrachloroethene	ug/L	20	21.1	106	74-125	
Tetrahydrofuran	ug/L	200	185	93	64-142	
Toluene	ug/L	20	18.8	94	75-125	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	73-125	
trans-1,3-Dichloropropene	ug/L	20	19.5	98	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	47.6	95	54-133	
Trichloroethene	ug/L	20	20.5	103	75-125	
Trichlorofluoromethane	ug/L	20	20.7	104	75-126	
Vinyl acetate	ug/L	20	19.3	97	67-126	
Vinyl chloride	ug/L	20	19.9	99	72-125	
Xylene (Total)	ug/L	60	58.3	97	75-125	
1,2-Dichloroethane-d4 (S)	%			96	75-125	
4-Bromofluorobenzene (S)	%			97	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2491041 2491042

Parameter	Units	10375303003		MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result						
1,1,1,2-Tetrachloroethane	ug/L	<0.32	100	100	107	106	107	106	75-127	1	30		
1,1,1-Trichloroethane	ug/L	<0.28	100	100	97.8	96.0	98	96	66-142	2	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.28	100	100	99.4	102	99	102	70-131	2	30		
1,1,2-Trichloroethane	ug/L	<0.32	100	100	102	103	102	103	75-128	1	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375378

Parameter	Units	2491041		2491042		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10375303003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
1,1,2-Trichlorotrifluoroethane	ug/L	<0.65	100	100	106	106	106	106	54-150	0	30	
1,1-Dichloroethane	ug/L	<0.28	100	100	97.3	97.4	97	97	58-147	0	30	
1,1-Dichloroethene	ug/L	<0.34	100	100	96.4	94.7	96	95	49-150	2	30	
1,1-Dichloropropene	ug/L	<0.41	100	100	103	103	103	103	58-147	0	30	
1,2,3-Trichlorobenzene	ug/L	<0.85	100	100	113	112	113	112	57-139	1	30	
1,2,3-Trichloropropane	ug/L	<0.95	100	100	98.7	99.7	99	100	71-127	1	30	
1,2,4-Trichlorobenzene	ug/L	<0.70	100	100	108	107	108	107	55-136	0	30	
1,2,4-Trimethylbenzene	ug/L	305	100	100	410	415	106	110	67-138	1	30	
1,2-Dibromo-3-chloropropane	ug/L	<3.0	250	250	241	257	97	103	63-136	6	30	
1,2-Dibromoethane (EDB)	ug/L	<0.46	100	100	103	104	103	104	74-125	1	30	
1,2-Dichlorobenzene	ug/L	<0.39	100	100	106	103	106	103	75-125	2	30	
1,2-Dichloroethane	ug/L	<0.36	100	100	90.7	93.3	91	93	63-133	3	30	
1,2-Dichloroethene (Total)	ug/L	<0.82	200	200	196	196	98	98	55-146	0	30	
1,2-Dichloropropane	ug/L	<0.33	100	100	102	100	102	100	63-138	1	30	
1,3,5-Trimethylbenzene	ug/L	117	100	100	225	226	108	109	69-136	1	30	
1,3-Dichlorobenzene	ug/L	<0.42	100	100	106	105	106	105	75-125	1	30	
1,3-Dichloropropane	ug/L	<0.30	100	100	101	102	101	102	65-135	1	30	
1,4-Dichlorobenzene	ug/L	<0.40	100	100	105	106	105	106	70-126	1	30	
1,4-Dioxane (p-Dioxane)	ug/L	<24.0	2000	2000	2240	2190	112	110	54-145	2	30	
2,2,4-Trimethylpentane	ug/L	<0.44	100	100	100	102	100	102	30-150	2	30	
2,2-Dichloropropane	ug/L	<0.48	100	100	96.1	94.6	96	95	39-148	1	30	
2-Butanone (MEK)	ug/L	<5.5	500	500	407	453	81	91	50-144	11	30	
2-Chlorotoluene	ug/L	<0.42	100	100	100	100	100	100	71-135	0	30	
2-Hexanone	ug/L	<0.96	500	500	414	456	83	91	43-150	10	30	
4-Chlorotoluene	ug/L	<0.24	100	100	99.8	99.2	100	99	71-131	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<4.0	500	500	428	462	86	92	60-147	8	30	
Acetone	ug/L	<3.2	500	500	535	541	107	108	59-150	1	30	
Acrolein	ug/L	<10.5	1000	1000	1010	1090	101	109	30-150	8	30	
Acrylonitrile	ug/L	<2.4	1000	1000	873	945	87	94	41-148	8	30	
Benzene	ug/L	80.3	100	100	175	173	95	93	61-138	1	30	
Bromobenzene	ug/L	<0.44	100	100	108	105	108	105	74-130	2	30	
Bromochloromethane	ug/L	<0.41	100	100	104	108	104	108	65-137	4	30	
Bromodichloromethane	ug/L	<0.34	100	100	104	102	104	102	66-136	2	30	
Bromoform	ug/L	<0.55	100	100	94.0	95.5	94	96	71-125	2	30	
Bromomethane	ug/L	<1.0	100	100	108	111	108	111	30-150	3	30	
Carbon disulfide	ug/L	<1.0	100	100	94.2	91.8	94	92	30-150	3	30	
Carbon tetrachloride	ug/L	<0.40	100	100	98.7	101	99	101	68-140	2	30	
Chlorobenzene	ug/L	<0.33	100	100	102	103	102	103	75-132	1	30	
Chloroethane	ug/L	<0.60	100	100	100	98.9	100	99	55-150	1	30	
Chloroform	ug/L	<1.0	100	100	92.7	93.2	93	93	64-139	0	30	
Chloromethane	ug/L	<0.40	100	100	98.3	97.5	98	98	73-150	1	30	
cis-1,2-Dichloroethene	ug/L	<0.60	100	100	97.7	97.6	98	98	62-138	0	30	
cis-1,3-Dichloropropene	ug/L	<0.34	100	100	98.6	97.5	99	98	70-125	1	30	
Dibromochloromethane	ug/L	<0.24	100	100	104	106	104	106	74-125	2	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375378

Parameter	Units	2491041		2491042		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
Dibromomethane	ug/L	<0.70	100	100	100	100	100	100	100	66-138	0	30
Dichlorodifluoromethane	ug/L	<0.38	100	100	104	102	104	102	102	53-150	2	30
Dichlorofluoromethane	ug/L	<0.27	100	100	98.3	96.0	98	96	96	58-150	2	30
Diisopropyl ether	ug/L	<0.25	100	100	89.5	90.8	90	91	91	50-139	1	30
Ethyl-tert-butyl ether	ug/L	<0.31	100	100	95.8	98.5	96	99	99	30-140	3	30
Ethylbenzene	ug/L	47.8	100	100	148	147	100	99	99	66-141	0	30
Hexachloro-1,3-butadiene	ug/L	<0.65	100	100	109	108	109	108	108	63-139	1	30
Isopropylbenzene (Cumene)	ug/L	11.7	100	100	111	113	100	102	102	65-146	2	30
m&p-Xylene	ug/L	691	200	200	909	910	109	109	109	72-142	0	30
Methyl-tert-butyl ether	ug/L	<0.24	100	100	92.8	96.8	93	97	97	63-134	4	30
Methylene Chloride	ug/L	1.6J	100	100	99.9	101	98	99	99	49-143	1	30
n-Butylbenzene	ug/L	1.7J	100	100	112	110	110	108	108	67-134	1	30
n-Propylbenzene	ug/L	11.4	100	100	112	112	101	101	101	62-142	0	30
Naphthalene	ug/L	40.4	100	100	140	146	100	106	106	41-150	4	30
o-Xylene	ug/L	426	100	100	540	541	113	114	114	66-138	0	30
p-Isopropyltoluene	ug/L	6.1	100	100	123	121	116	115	115	64-137	1	30
sec-Butylbenzene	ug/L	3.8	100	100	106	107	102	103	103	65-142	0	30
Styrene	ug/L	<0.28	100	100	105	105	105	105	105	61-142	0	30
tert-Amylmethyl ether	ug/L	<0.36	100	100	91.8	95.3	92	95	95	65-125	4	30
tert-Butyl Alcohol	ug/L	<4.4	1000	1000	1030	1080	103	108	108	59-138	6	30
tert-Butylbenzene	ug/L	0.39J	100	100	102	102	102	102	102	69-135	0	30
Tetrachloroethene	ug/L	<0.65	100	100	110	109	110	109	109	62-142	0	30
Tetrahydrofuran	ug/L	<7.5	1000	1000	1060	1050	106	105	105	55-150	1	30
Toluene	ug/L	372	100	100	485	475	113	104	104	66-132	2	30
trans-1,2-Dichloroethene	ug/L	<0.75	100	100	98.0	98.7	98	99	99	48-150	1	30
trans-1,3-Dichloropropene	ug/L	<0.22	100	100	101	104	101	104	104	65-130	3	30
trans-1,4-Dichloro-2-butene	ug/L	<2.2	250	250	240	252	96	101	101	31-150	5	30
Trichloroethene	ug/L	<0.22	100	100	110	105	110	105	105	64-142	5	30
Trichlorofluoromethane	ug/L	<0.28	100	100	111	108	111	108	108	63-150	2	30
Vinyl acetate	ug/L	<0.60	100	100	95.5	101	96	101	101	30-150	5	30
Vinyl chloride	ug/L	<0.49	100	100	105	104	105	104	104	58-150	1	30
Xylene (Total)	ug/L	1120	300	300	1450	1450	110	111	111	70-140	0	30
1,2-Dichloroethane-d4 (S)	%						95	98	98	75-125		
4-Bromofluorobenzene (S)	%						98	97	97	75-125		
Toluene-d8 (S)	%						100	101	101	75-125		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

WORKORDER QUALIFIERS

WO: 10375378

[1] The samples were received within the required temperature range, however all vials received were partially frozen. Analysis was completed upon client approval.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10375378

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375378

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10375378001	MW18D-80-85-010617	EPA 8260B	455214		
10375378002	MW50D-80-85-010617	EPA 8260B	455214		
10375378003	TRIP BLANK	EPA 8260B	455214		


REPORT OF LABORATORY ANALYSIS

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Sample Condition
 Upon Receipt - ESI
 Tech Specs

Client Name: **CH2M Hill**

Project #:

WO#: 10375378

 10375378

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____
 Tracking Number: **7021 4575 8608**

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): **0.6** Cooler Temp Corrected (°C): **0.5** Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: **-0.1** Date and Initials of Person Examining Contents: **KPR 1-10-17**

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Intact?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		10. <i>1 broken from sample 1. all partially frozen</i>
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12.
-Includes Date/Time/ID/Analysis Matrix: WT			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: (OA) Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: Lot # of added preservative:
Per method, VOA pH is checked after analysis			
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15. <i>only 2 trip blanks</i>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <i>not visible</i>			

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: **Mark Ochsner** Date/Time: **1/10/17 @ 15:06**

Comments/Resolution: **Per Mark, proceed with analysis- vials were partially frozen.**

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins			Notified client of broken vial for sample -001.
Opened Time: 16:15	Temp: 0.6	Corrected Temp: 0.5	
Time: 16:27	put in cooler		
Time:	Temp:	Corrected Temp:	

Project Manager Review: **JENNI GROSS** Date: **1/10/16**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

January 18, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

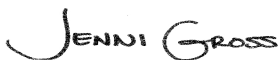
RE: Project: UPRR Freeman RI
Pace Project No.: 10375758

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 12, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: UPRR Freeman RI

Pace Project No.: 10375758

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10375758001	SB34-SS-5	Solid	01/09/17 14:15	01/12/17 10:00
10375758002	SB34-SS-10	Solid	01/09/17 14:30	01/12/17 10:00
10375758003	SB34-SS-15	Solid	01/09/17 14:40	01/12/17 10:00
10375758004	SB34-SS-20	Solid	01/09/17 14:50	01/12/17 10:00
10375758005	SB34-SS-25	Solid	01/09/17 15:00	01/12/17 10:00
10375758006	SB34-SS-30	Solid	01/09/17 15:10	01/12/17 10:00
10375758007	SB34-SS-35	Solid	01/09/17 15:20	01/12/17 10:00
10375758008	SB34-SS-40	Solid	01/09/17 15:30	01/12/17 10:00
10375758009	SB34-SS-50	Solid	01/09/17 15:40	01/12/17 10:00
10375758010	SB34-SS-55	Solid	01/09/17 16:00	01/12/17 10:00
10375758011	SB34-SS-60	Solid	01/09/17 16:10	01/12/17 10:00
10375758012	SB34-GW-63	Water	01/10/17 08:30	01/12/17 10:00
10375758013	SSF0-1	Solid	01/10/17 08:10	01/12/17 10:00
10375758014	SB34-SS-65	Solid	01/10/17 09:10	01/12/17 10:00
10375758015	SB34-SS-45	Solid	01/09/17 15:40	01/12/17 10:00

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SAMPLE ANALYTE COUNT

Project: UPRR Freeman RI

Pace Project No.: 10375758

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10375758001	SB34-SS-5	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758002	SB34-SS-10	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758003	SB34-SS-15	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758004	SB34-SS-20	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758005	SB34-SS-25	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758006	SB34-SS-30	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758007	SB34-SS-35	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758008	SB34-SS-40	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758009	SB34-SS-50	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758010	SB34-SS-55	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758011	SB34-SS-60	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758012	SB34-GW-63	EPA 8260B	DJB	83	PASI-M
10375758013	SSF0-1	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758014	SB34-SS-65	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M
10375758015	SB34-SS-45	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	50	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: UPRR Freeman RI

Pace Project No.: 10375758

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10375758001	SB34-SS-5					
ASTM D2974	Percent Moisture	17.5	%	0.10	01/13/17 10:30	
10375758002	SB34-SS-10					
ASTM D2974	Percent Moisture	17.7	%	0.10	01/13/17 10:30	
10375758003	SB34-SS-15					
ASTM D2974	Percent Moisture	35.4	%	0.10	01/13/17 10:30	
10375758004	SB34-SS-20					
ASTM D2974	Percent Moisture	33.6	%	0.10	01/13/17 10:30	
10375758005	SB34-SS-25					
ASTM D2974	Percent Moisture	31.9	%	0.10	01/13/17 10:31	
10375758006	SB34-SS-30					
ASTM D2974	Percent Moisture	37.7	%	0.10	01/13/17 10:31	
EPA 8260B	Carbon tetrachloride	30.2J	ug/kg	82.0	01/13/17 23:31	
10375758007	SB34-SS-35					
ASTM D2974	Percent Moisture	30.8	%	0.10	01/13/17 10:31	
EPA 8260B	Carbon tetrachloride	58.2J	ug/kg	66.7	01/13/17 23:49	
10375758008	SB34-SS-40					
ASTM D2974	Percent Moisture	32.4	%	0.10	01/13/17 10:31	
10375758009	SB34-SS-50					
ASTM D2974	Percent Moisture	32.8	%	0.10	01/13/17 10:32	
10375758010	SB34-SS-55					
ASTM D2974	Percent Moisture	33.8	%	0.10	01/13/17 10:32	
10375758011	SB34-SS-60					
ASTM D2974	Percent Moisture	32.7	%	0.10	01/13/17 10:32	
10375758012	SB34-GW-63					
EPA 8260B	1,2,4-Trimethylbenzene	1.3J	ug/L	2.5	01/13/17 17:05	
EPA 8260B	Carbon tetrachloride	9.5	ug/L	5.0	01/13/17 17:05	
EPA 8260B	Chloroform	1.9J	ug/L	5.0	01/13/17 17:05	
EPA 8260B	Naphthalene	1.6J	ug/L	5.0	01/13/17 17:05	
10375758013	SSF0-1					
ASTM D2974	Percent Moisture	12.7	%	0.10	01/13/17 10:32	
10375758014	SB34-SS-65					
ASTM D2974	Percent Moisture	13.6	%	0.10	01/13/17 10:33	
10375758015	SB34-SS-45					
ASTM D2974	Percent Moisture	32.0	%	0.10	01/13/17 10:33	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: UPRR Freeman RI

Pace Project No.: 10375758

Method: EPA 8260B

Description: 8260B MSV 5030 Med Level

Client: UPRR_CH2M Hill

Date: January 18, 2017

General Information:

14 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: UPRR Freeman RI

Pace Project No.: 10375758

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 18, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 455562

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2493288)
 - Bromomethane
 - Chloromethane
- LCS (Lab ID: 2493289)
 - Bromomethane
 - Chloromethane
- LCSD (Lab ID: 2493290)
 - Bromomethane
 - Chloromethane
- SB34-GW-63 (Lab ID: 10375758012)
 - Bromomethane
 - Chloromethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 455562

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

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PROJECT NARRATIVE

Project: UPRR Freeman RI

Pace Project No.: 10375758

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: January 18, 2017

Additional Comments:

Analyte Comments:

QC Batch: 455562

1M: The sample was analyzed at a dilution due to a large amount of sediment in the vials.

- SB34-GW-63 (Lab ID: 10375758012)
 - 1,2-Dichloroethane-d4 (S)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-5 Lab ID: 10375758001 Collected: 01/09/17 14:15 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	17.5	%	0.10	0.10	1		01/13/17 10:30		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<24.2	ug/kg	57.8	24.2	1	01/13/17 11:34	01/13/17 22:38	71-55-6	
1,1,2,2-Tetrachloroethane	<12.8	ug/kg	57.8	12.8	1	01/13/17 11:34	01/13/17 22:38	79-34-5	
1,1,2-Trichloroethane	<12.5	ug/kg	57.8	12.5	1	01/13/17 11:34	01/13/17 22:38	79-00-5	
1,1,2-Trichlorotrifluoroethane	<41.6	ug/kg	231	41.6	1	01/13/17 11:34	01/13/17 22:38	76-13-1	
1,1-Dichloroethane	<22.4	ug/kg	57.8	22.4	1	01/13/17 11:34	01/13/17 22:38	75-34-3	
1,1-Dichloroethene	<14.7	ug/kg	57.8	14.7	1	01/13/17 11:34	01/13/17 22:38	75-35-4	
1,2,4-Trichlorobenzene	<17.8	ug/kg	57.8	17.8	1	01/13/17 11:34	01/13/17 22:38	120-82-1	
1,2,4-Trimethylbenzene	<12.7	ug/kg	57.8	12.7	1	01/13/17 11:34	01/13/17 22:38	95-63-6	
1,2-Dibromoethane (EDB)	<21.7	ug/kg	57.8	21.7	1	01/13/17 11:34	01/13/17 22:38	106-93-4	
1,2-Dichlorobenzene	<11.2	ug/kg	57.8	11.2	1	01/13/17 11:34	01/13/17 22:38	95-50-1	
1,2-Dichloroethane	<18.3	ug/kg	57.8	18.3	1	01/13/17 11:34	01/13/17 22:38	107-06-2	
1,3,5-Trimethylbenzene	<13.3	ug/kg	57.8	13.3	1	01/13/17 11:34	01/13/17 22:38	108-67-8	
1,3-Dichlorobenzene	<17.0	ug/kg	57.8	17.0	1	01/13/17 11:34	01/13/17 22:38	541-73-1	
1,4-Dichlorobenzene	<16.8	ug/kg	57.8	16.8	1	01/13/17 11:34	01/13/17 22:38	106-46-7	
2-Butanone (MEK)	<76.3	ug/kg	289	76.3	1	01/13/17 11:34	01/13/17 22:38	78-93-3	
2-Hexanone	<68.1	ug/kg	289	68.1	1	01/13/17 11:34	01/13/17 22:38	591-78-6	
4-Methyl-2-pentanone (MIBK)	<38.3	ug/kg	289	38.3	1	01/13/17 11:34	01/13/17 22:38	108-10-1	
Acetone	<379	ug/kg	1160	379	1	01/13/17 11:34	01/13/17 22:38	67-64-1	
Benzene	<5.0	ug/kg	23.1	5.0	1	01/13/17 11:34	01/13/17 22:38	71-43-2	
Bromodichloromethane	<16.2	ug/kg	57.8	16.2	1	01/13/17 11:34	01/13/17 22:38	75-27-4	
Bromoform	<49.9	ug/kg	231	49.9	1	01/13/17 11:34	01/13/17 22:38	75-25-2	
Bromomethane	<58.6	ug/kg	578	58.6	1	01/13/17 11:34	01/13/17 22:38	74-83-9	
Carbon tetrachloride	<18.2	ug/kg	57.8	18.2	1	01/13/17 11:34	01/13/17 22:38	56-23-5	
Chlorobenzene	<10.1	ug/kg	57.8	10.1	1	01/13/17 11:34	01/13/17 22:38	108-90-7	
Chloroethane	<91.4	ug/kg	578	91.4	1	01/13/17 11:34	01/13/17 22:38	75-00-3	
Chloroform	<28.1	ug/kg	57.8	28.1	1	01/13/17 11:34	01/13/17 22:38	67-66-3	
Chloromethane	<28.0	ug/kg	231	28.0	1	01/13/17 11:34	01/13/17 22:38	74-87-3	
Dibromochloromethane	<49.6	ug/kg	231	49.6	1	01/13/17 11:34	01/13/17 22:38	124-48-1	
Dichlorodifluoromethane	<17.7	ug/kg	231	17.7	1	01/13/17 11:34	01/13/17 22:38	75-71-8	
Ethylbenzene	<18.4	ug/kg	57.8	18.4	1	01/13/17 11:34	01/13/17 22:38	100-41-4	
Hexachloro-1,3-butadiene	<54.4	ug/kg	289	54.4	1	01/13/17 11:34	01/13/17 22:38	87-68-3	
Methyl-tert-butyl ether	<10.8	ug/kg	57.8	10.8	1	01/13/17 11:34	01/13/17 22:38	1634-04-4	
Methylene Chloride	<107	ug/kg	231	107	1	01/13/17 11:34	01/13/17 22:38	75-09-2	
Naphthalene	<14.0	ug/kg	231	14.0	1	01/13/17 11:34	01/13/17 22:38	91-20-3	
Styrene	<15.0	ug/kg	57.8	15.0	1	01/13/17 11:34	01/13/17 22:38	100-42-5	
Tetrachloroethene	<22.1	ug/kg	57.8	22.1	1	01/13/17 11:34	01/13/17 22:38	127-18-4	
Tetrahydrofuran	<287	ug/kg	2310	287	1	01/13/17 11:34	01/13/17 22:38	109-99-9	
Toluene	<18.4	ug/kg	57.8	18.4	1	01/13/17 11:34	01/13/17 22:38	108-88-3	
Trichloroethene	<16.5	ug/kg	57.8	16.5	1	01/13/17 11:34	01/13/17 22:38	79-01-6	
Trichlorofluoromethane	<58.1	ug/kg	231	58.1	1	01/13/17 11:34	01/13/17 22:38	75-69-4	
Vinyl chloride	<7.4	ug/kg	23.1	7.4	1	01/13/17 11:34	01/13/17 22:38	75-01-4	
cis-1,2-Dichloroethene	<21.5	ug/kg	57.8	21.5	1	01/13/17 11:34	01/13/17 22:38	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-5 **Lab ID: 10375758001** Collected: 01/09/17 14:15 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<26.4	ug/kg	57.8	26.4	1	01/13/17 11:34	01/13/17 22:38	10061-01-5	
m&p-Xylene	<29.0	ug/kg	116	29.0	1	01/13/17 11:34	01/13/17 22:38	179601-23-1	
o-Xylene	<17.2	ug/kg	57.8	17.2	1	01/13/17 11:34	01/13/17 22:38	95-47-6	
trans-1,2-Dichloroethene	<27.9	ug/kg	57.8	27.9	1	01/13/17 11:34	01/13/17 22:38	156-60-5	
trans-1,3-Dichloropropene	<19.7	ug/kg	231	19.7	1	01/13/17 11:34	01/13/17 22:38	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-129		1	01/13/17 11:34	01/13/17 22:38	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/13/17 11:34	01/13/17 22:38	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/13/17 11:34	01/13/17 22:38	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-10** Lab ID: **10375758002** Collected: 01/09/17 14:30 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	17.7	%	0.10	0.10	1		01/13/17 10:30		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.9	ug/kg	64.4	26.9	1	01/13/17 11:34	01/13/17 20:36	71-55-6	
1,1,2,2-Tetrachloroethane	<14.3	ug/kg	64.4	14.3	1	01/13/17 11:34	01/13/17 20:36	79-34-5	
1,1,2-Trichloroethane	<13.9	ug/kg	64.4	13.9	1	01/13/17 11:34	01/13/17 20:36	79-00-5	
1,1,2-Trichlorotrifluoroethane	<46.4	ug/kg	258	46.4	1	01/13/17 11:34	01/13/17 20:36	76-13-1	
1,1-Dichloroethane	<25.0	ug/kg	64.4	25.0	1	01/13/17 11:34	01/13/17 20:36	75-34-3	
1,1-Dichloroethene	<16.4	ug/kg	64.4	16.4	1	01/13/17 11:34	01/13/17 20:36	75-35-4	
1,2,4-Trichlorobenzene	<19.8	ug/kg	64.4	19.8	1	01/13/17 11:34	01/13/17 20:36	120-82-1	
1,2,4-Trimethylbenzene	<14.2	ug/kg	64.4	14.2	1	01/13/17 11:34	01/13/17 20:36	95-63-6	
1,2-Dibromoethane (EDB)	<24.2	ug/kg	64.4	24.2	1	01/13/17 11:34	01/13/17 20:36	106-93-4	
1,2-Dichlorobenzene	<12.4	ug/kg	64.4	12.4	1	01/13/17 11:34	01/13/17 20:36	95-50-1	
1,2-Dichloroethane	<20.4	ug/kg	64.4	20.4	1	01/13/17 11:34	01/13/17 20:36	107-06-2	
1,3,5-Trimethylbenzene	<14.8	ug/kg	64.4	14.8	1	01/13/17 11:34	01/13/17 20:36	108-67-8	
1,3-Dichlorobenzene	<18.9	ug/kg	64.4	18.9	1	01/13/17 11:34	01/13/17 20:36	541-73-1	
1,4-Dichlorobenzene	<18.7	ug/kg	64.4	18.7	1	01/13/17 11:34	01/13/17 20:36	106-46-7	
2-Butanone (MEK)	<85.0	ug/kg	322	85.0	1	01/13/17 11:34	01/13/17 20:36	78-93-3	
2-Hexanone	<75.9	ug/kg	322	75.9	1	01/13/17 11:34	01/13/17 20:36	591-78-6	
4-Methyl-2-pentanone (MIBK)	<42.7	ug/kg	322	42.7	1	01/13/17 11:34	01/13/17 20:36	108-10-1	
Acetone	<423	ug/kg	1290	423	1	01/13/17 11:34	01/13/17 20:36	67-64-1	
Benzene	<5.6	ug/kg	25.8	5.6	1	01/13/17 11:34	01/13/17 20:36	71-43-2	
Bromodichloromethane	<18.0	ug/kg	64.4	18.0	1	01/13/17 11:34	01/13/17 20:36	75-27-4	
Bromoform	<55.5	ug/kg	258	55.5	1	01/13/17 11:34	01/13/17 20:36	75-25-2	
Bromomethane	<65.3	ug/kg	644	65.3	1	01/13/17 11:34	01/13/17 20:36	74-83-9	
Carbon tetrachloride	<20.2	ug/kg	64.4	20.2	1	01/13/17 11:34	01/13/17 20:36	56-23-5	
Chlorobenzene	<11.2	ug/kg	64.4	11.2	1	01/13/17 11:34	01/13/17 20:36	108-90-7	
Chloroethane	<102	ug/kg	644	102	1	01/13/17 11:34	01/13/17 20:36	75-00-3	
Chloroform	<31.3	ug/kg	64.4	31.3	1	01/13/17 11:34	01/13/17 20:36	67-66-3	
Chloromethane	<31.2	ug/kg	258	31.2	1	01/13/17 11:34	01/13/17 20:36	74-87-3	
Dibromochloromethane	<55.3	ug/kg	258	55.3	1	01/13/17 11:34	01/13/17 20:36	124-48-1	
Dichlorodifluoromethane	<19.7	ug/kg	258	19.7	1	01/13/17 11:34	01/13/17 20:36	75-71-8	
Ethylbenzene	<20.5	ug/kg	64.4	20.5	1	01/13/17 11:34	01/13/17 20:36	100-41-4	
Hexachloro-1,3-butadiene	<60.6	ug/kg	322	60.6	1	01/13/17 11:34	01/13/17 20:36	87-68-3	
Methyl-tert-butyl ether	<12.1	ug/kg	64.4	12.1	1	01/13/17 11:34	01/13/17 20:36	1634-04-4	
Methylene Chloride	<119	ug/kg	258	119	1	01/13/17 11:34	01/13/17 20:36	75-09-2	
Naphthalene	<15.6	ug/kg	258	15.6	1	01/13/17 11:34	01/13/17 20:36	91-20-3	
Styrene	<16.8	ug/kg	64.4	16.8	1	01/13/17 11:34	01/13/17 20:36	100-42-5	
Tetrachloroethene	<24.6	ug/kg	64.4	24.6	1	01/13/17 11:34	01/13/17 20:36	127-18-4	
Tetrahydrofuran	<320	ug/kg	2580	320	1	01/13/17 11:34	01/13/17 20:36	109-99-9	
Toluene	<20.5	ug/kg	64.4	20.5	1	01/13/17 11:34	01/13/17 20:36	108-88-3	
Trichloroethene	<18.4	ug/kg	64.4	18.4	1	01/13/17 11:34	01/13/17 20:36	79-01-6	
Trichlorofluoromethane	<64.7	ug/kg	258	64.7	1	01/13/17 11:34	01/13/17 20:36	75-69-4	
Vinyl chloride	<8.3	ug/kg	25.8	8.3	1	01/13/17 11:34	01/13/17 20:36	75-01-4	
cis-1,2-Dichloroethene	<24.0	ug/kg	64.4	24.0	1	01/13/17 11:34	01/13/17 20:36	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-10 **Lab ID: 10375758002** Collected: 01/09/17 14:30 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<29.4	ug/kg	64.4	29.4	1	01/13/17 11:34	01/13/17 20:36	10061-01-5	
m&p-Xylene	<32.3	ug/kg	129	32.3	1	01/13/17 11:34	01/13/17 20:36	179601-23-1	
o-Xylene	<19.2	ug/kg	64.4	19.2	1	01/13/17 11:34	01/13/17 20:36	95-47-6	
trans-1,2-Dichloroethene	<31.1	ug/kg	64.4	31.1	1	01/13/17 11:34	01/13/17 20:36	156-60-5	
trans-1,3-Dichloropropene	<21.9	ug/kg	258	21.9	1	01/13/17 11:34	01/13/17 20:36	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-129		1	01/13/17 11:34	01/13/17 20:36	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/13/17 11:34	01/13/17 20:36	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/13/17 11:34	01/13/17 20:36	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-15 **Lab ID: 10375758003** Collected: 01/09/17 14:40 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	35.4	%	0.10	0.10	1		01/13/17 10:30		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<32.8	ug/kg	78.6	32.8	1	01/13/17 11:34	01/13/17 22:56	71-55-6	
1,1,2,2-Tetrachloroethane	<17.4	ug/kg	78.6	17.4	1	01/13/17 11:34	01/13/17 22:56	79-34-5	
1,1,2-Trichloroethane	<17.0	ug/kg	78.6	17.0	1	01/13/17 11:34	01/13/17 22:56	79-00-5	
1,1,2-Trichlorotrifluoroethane	<56.6	ug/kg	314	56.6	1	01/13/17 11:34	01/13/17 22:56	76-13-1	
1,1-Dichloroethane	<30.5	ug/kg	78.6	30.5	1	01/13/17 11:34	01/13/17 22:56	75-34-3	
1,1-Dichloroethene	<20.0	ug/kg	78.6	20.0	1	01/13/17 11:34	01/13/17 22:56	75-35-4	
1,2,4-Trichlorobenzene	<24.2	ug/kg	78.6	24.2	1	01/13/17 11:34	01/13/17 22:56	120-82-1	
1,2,4-Trimethylbenzene	<17.3	ug/kg	78.6	17.3	1	01/13/17 11:34	01/13/17 22:56	95-63-6	
1,2-Dibromoethane (EDB)	<29.5	ug/kg	78.6	29.5	1	01/13/17 11:34	01/13/17 22:56	106-93-4	
1,2-Dichlorobenzene	<15.2	ug/kg	78.6	15.2	1	01/13/17 11:34	01/13/17 22:56	95-50-1	
1,2-Dichloroethane	<24.8	ug/kg	78.6	24.8	1	01/13/17 11:34	01/13/17 22:56	107-06-2	
1,3,5-Trimethylbenzene	<18.1	ug/kg	78.6	18.1	1	01/13/17 11:34	01/13/17 22:56	108-67-8	
1,3-Dichlorobenzene	<23.1	ug/kg	78.6	23.1	1	01/13/17 11:34	01/13/17 22:56	541-73-1	
1,4-Dichlorobenzene	<22.8	ug/kg	78.6	22.8	1	01/13/17 11:34	01/13/17 22:56	106-46-7	
2-Butanone (MEK)	<104	ug/kg	393	104	1	01/13/17 11:34	01/13/17 22:56	78-93-3	
2-Hexanone	<92.5	ug/kg	393	92.5	1	01/13/17 11:34	01/13/17 22:56	591-78-6	
4-Methyl-2-pentanone (MIBK)	<52.0	ug/kg	393	52.0	1	01/13/17 11:34	01/13/17 22:56	108-10-1	
Acetone	<515	ug/kg	1570	515	1	01/13/17 11:34	01/13/17 22:56	67-64-1	
Benzene	<6.8	ug/kg	31.4	6.8	1	01/13/17 11:34	01/13/17 22:56	71-43-2	
Bromodichloromethane	<22.0	ug/kg	78.6	22.0	1	01/13/17 11:34	01/13/17 22:56	75-27-4	
Bromoform	<67.7	ug/kg	314	67.7	1	01/13/17 11:34	01/13/17 22:56	75-25-2	
Bromomethane	<79.7	ug/kg	786	79.7	1	01/13/17 11:34	01/13/17 22:56	74-83-9	
Carbon tetrachloride	<24.7	ug/kg	78.6	24.7	1	01/13/17 11:34	01/13/17 22:56	56-23-5	
Chlorobenzene	<13.7	ug/kg	78.6	13.7	1	01/13/17 11:34	01/13/17 22:56	108-90-7	
Chloroethane	<124	ug/kg	786	124	1	01/13/17 11:34	01/13/17 22:56	75-00-3	
Chloroform	<38.2	ug/kg	78.6	38.2	1	01/13/17 11:34	01/13/17 22:56	67-66-3	
Chloromethane	<38.0	ug/kg	314	38.0	1	01/13/17 11:34	01/13/17 22:56	74-87-3	
Dibromochloromethane	<67.4	ug/kg	314	67.4	1	01/13/17 11:34	01/13/17 22:56	124-48-1	
Dichlorodifluoromethane	<24.0	ug/kg	314	24.0	1	01/13/17 11:34	01/13/17 22:56	75-71-8	
Ethylbenzene	<25.0	ug/kg	78.6	25.0	1	01/13/17 11:34	01/13/17 22:56	100-41-4	
Hexachloro-1,3-butadiene	<73.8	ug/kg	393	73.8	1	01/13/17 11:34	01/13/17 22:56	87-68-3	
Methyl-tert-butyl ether	<14.7	ug/kg	78.6	14.7	1	01/13/17 11:34	01/13/17 22:56	1634-04-4	
Methylene Chloride	<145	ug/kg	314	145	1	01/13/17 11:34	01/13/17 22:56	75-09-2	
Naphthalene	<19.0	ug/kg	314	19.0	1	01/13/17 11:34	01/13/17 22:56	91-20-3	
Styrene	<20.4	ug/kg	78.6	20.4	1	01/13/17 11:34	01/13/17 22:56	100-42-5	
Tetrachloroethene	<30.0	ug/kg	78.6	30.0	1	01/13/17 11:34	01/13/17 22:56	127-18-4	
Tetrahydrofuran	<390	ug/kg	3140	390	1	01/13/17 11:34	01/13/17 22:56	109-99-9	
Toluene	<25.0	ug/kg	78.6	25.0	1	01/13/17 11:34	01/13/17 22:56	108-88-3	
Trichloroethene	<22.5	ug/kg	78.6	22.5	1	01/13/17 11:34	01/13/17 22:56	79-01-6	
Trichlorofluoromethane	<78.9	ug/kg	314	78.9	1	01/13/17 11:34	01/13/17 22:56	75-69-4	
Vinyl chloride	<10.1	ug/kg	31.4	10.1	1	01/13/17 11:34	01/13/17 22:56	75-01-4	
cis-1,2-Dichloroethene	<29.2	ug/kg	78.6	29.2	1	01/13/17 11:34	01/13/17 22:56	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-15 **Lab ID: 10375758003** Collected: 01/09/17 14:40 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<35.8	ug/kg	78.6	35.8	1	01/13/17 11:34	01/13/17 22:56	10061-01-5	
m&p-Xylene	<39.4	ug/kg	157	39.4	1	01/13/17 11:34	01/13/17 22:56	179601-23-1	
o-Xylene	<23.4	ug/kg	78.6	23.4	1	01/13/17 11:34	01/13/17 22:56	95-47-6	
trans-1,2-Dichloroethene	<37.9	ug/kg	78.6	37.9	1	01/13/17 11:34	01/13/17 22:56	156-60-5	
trans-1,3-Dichloropropene	<26.7	ug/kg	314	26.7	1	01/13/17 11:34	01/13/17 22:56	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-129		1	01/13/17 11:34	01/13/17 22:56	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 22:56	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/13/17 11:34	01/13/17 22:56	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-20** Lab ID: **10375758004** Collected: 01/09/17 14:50 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	33.6	%	0.10	0.10	1		01/13/17 10:30		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<30.7	ug/kg	73.4	30.7	1	01/13/17 11:34	01/13/17 20:53	71-55-6	
1,1,2,2-Tetrachloroethane	<16.3	ug/kg	73.4	16.3	1	01/13/17 11:34	01/13/17 20:53	79-34-5	
1,1,2-Trichloroethane	<15.8	ug/kg	73.4	15.8	1	01/13/17 11:34	01/13/17 20:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	<52.8	ug/kg	293	52.8	1	01/13/17 11:34	01/13/17 20:53	76-13-1	
1,1-Dichloroethane	<28.5	ug/kg	73.4	28.5	1	01/13/17 11:34	01/13/17 20:53	75-34-3	
1,1-Dichloroethene	<18.6	ug/kg	73.4	18.6	1	01/13/17 11:34	01/13/17 20:53	75-35-4	
1,2,4-Trichlorobenzene	<22.6	ug/kg	73.4	22.6	1	01/13/17 11:34	01/13/17 20:53	120-82-1	
1,2,4-Trimethylbenzene	<16.1	ug/kg	73.4	16.1	1	01/13/17 11:34	01/13/17 20:53	95-63-6	
1,2-Dibromoethane (EDB)	<27.6	ug/kg	73.4	27.6	1	01/13/17 11:34	01/13/17 20:53	106-93-4	
1,2-Dichlorobenzene	<14.2	ug/kg	73.4	14.2	1	01/13/17 11:34	01/13/17 20:53	95-50-1	
1,2-Dichloroethane	<23.2	ug/kg	73.4	23.2	1	01/13/17 11:34	01/13/17 20:53	107-06-2	
1,3,5-Trimethylbenzene	<16.9	ug/kg	73.4	16.9	1	01/13/17 11:34	01/13/17 20:53	108-67-8	
1,3-Dichlorobenzene	<21.6	ug/kg	73.4	21.6	1	01/13/17 11:34	01/13/17 20:53	541-73-1	
1,4-Dichlorobenzene	<21.3	ug/kg	73.4	21.3	1	01/13/17 11:34	01/13/17 20:53	106-46-7	
2-Butanone (MEK)	<96.8	ug/kg	367	96.8	1	01/13/17 11:34	01/13/17 20:53	78-93-3	
2-Hexanone	<86.4	ug/kg	367	86.4	1	01/13/17 11:34	01/13/17 20:53	591-78-6	
4-Methyl-2-pentanone (MIBK)	<48.6	ug/kg	367	48.6	1	01/13/17 11:34	01/13/17 20:53	108-10-1	
Acetone	<481	ug/kg	1470	481	1	01/13/17 11:34	01/13/17 20:53	67-64-1	
Benzene	<6.3	ug/kg	29.3	6.3	1	01/13/17 11:34	01/13/17 20:53	71-43-2	
Bromodichloromethane	<20.5	ug/kg	73.4	20.5	1	01/13/17 11:34	01/13/17 20:53	75-27-4	
Bromoform	<63.2	ug/kg	293	63.2	1	01/13/17 11:34	01/13/17 20:53	75-25-2	
Bromomethane	<74.4	ug/kg	734	74.4	1	01/13/17 11:34	01/13/17 20:53	74-83-9	
Carbon tetrachloride	<23.0	ug/kg	73.4	23.0	1	01/13/17 11:34	01/13/17 20:53	56-23-5	
Chlorobenzene	<12.8	ug/kg	73.4	12.8	1	01/13/17 11:34	01/13/17 20:53	108-90-7	
Chloroethane	<116	ug/kg	734	116	1	01/13/17 11:34	01/13/17 20:53	75-00-3	
Chloroform	<35.7	ug/kg	73.4	35.7	1	01/13/17 11:34	01/13/17 20:53	67-66-3	
Chloromethane	<35.5	ug/kg	293	35.5	1	01/13/17 11:34	01/13/17 20:53	74-87-3	
Dibromochloromethane	<62.9	ug/kg	293	62.9	1	01/13/17 11:34	01/13/17 20:53	124-48-1	
Dichlorodifluoromethane	<22.4	ug/kg	293	22.4	1	01/13/17 11:34	01/13/17 20:53	75-71-8	
Ethylbenzene	<23.3	ug/kg	73.4	23.3	1	01/13/17 11:34	01/13/17 20:53	100-41-4	
Hexachloro-1,3-butadiene	<69.0	ug/kg	367	69.0	1	01/13/17 11:34	01/13/17 20:53	87-68-3	
Methyl-tert-butyl ether	<13.7	ug/kg	73.4	13.7	1	01/13/17 11:34	01/13/17 20:53	1634-04-4	
Methylene Chloride	<136	ug/kg	293	136	1	01/13/17 11:34	01/13/17 20:53	75-09-2	
Naphthalene	<17.8	ug/kg	293	17.8	1	01/13/17 11:34	01/13/17 20:53	91-20-3	
Styrene	<19.1	ug/kg	73.4	19.1	1	01/13/17 11:34	01/13/17 20:53	100-42-5	
Tetrachloroethene	<28.0	ug/kg	73.4	28.0	1	01/13/17 11:34	01/13/17 20:53	127-18-4	
Tetrahydrofuran	<364	ug/kg	2930	364	1	01/13/17 11:34	01/13/17 20:53	109-99-9	
Toluene	<23.3	ug/kg	73.4	23.3	1	01/13/17 11:34	01/13/17 20:53	108-88-3	
Trichloroethene	<21.0	ug/kg	73.4	21.0	1	01/13/17 11:34	01/13/17 20:53	79-01-6	
Trichlorofluoromethane	<73.6	ug/kg	293	73.6	1	01/13/17 11:34	01/13/17 20:53	75-69-4	
Vinyl chloride	<9.4	ug/kg	29.3	9.4	1	01/13/17 11:34	01/13/17 20:53	75-01-4	
cis-1,2-Dichloroethene	<27.3	ug/kg	73.4	27.3	1	01/13/17 11:34	01/13/17 20:53	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-20 **Lab ID: 10375758004** Collected: 01/09/17 14:50 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<33.4	ug/kg	73.4	33.4	1	01/13/17 11:34	01/13/17 20:53	10061-01-5	
m&p-Xylene	<36.8	ug/kg	147	36.8	1	01/13/17 11:34	01/13/17 20:53	179601-23-1	
o-Xylene	<21.9	ug/kg	73.4	21.9	1	01/13/17 11:34	01/13/17 20:53	95-47-6	
trans-1,2-Dichloroethene	<35.4	ug/kg	73.4	35.4	1	01/13/17 11:34	01/13/17 20:53	156-60-5	
trans-1,3-Dichloropropene	<24.9	ug/kg	293	24.9	1	01/13/17 11:34	01/13/17 20:53	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-129		1	01/13/17 11:34	01/13/17 20:53	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 20:53	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/13/17 11:34	01/13/17 20:53	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-25** Lab ID: **10375758005** Collected: 01/09/17 15:00 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	31.9	%	0.10	0.10	1		01/13/17 10:31		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<28.1	ug/kg	67.2	28.1	1	01/13/17 11:34	01/13/17 23:14	71-55-6	
1,1,2,2-Tetrachloroethane	<14.9	ug/kg	67.2	14.9	1	01/13/17 11:34	01/13/17 23:14	79-34-5	
1,1,2-Trichloroethane	<14.5	ug/kg	67.2	14.5	1	01/13/17 11:34	01/13/17 23:14	79-00-5	
1,1,2-Trichlorotrifluoroethane	<48.4	ug/kg	269	48.4	1	01/13/17 11:34	01/13/17 23:14	76-13-1	
1,1-Dichloroethane	<26.1	ug/kg	67.2	26.1	1	01/13/17 11:34	01/13/17 23:14	75-34-3	
1,1-Dichloroethene	<17.1	ug/kg	67.2	17.1	1	01/13/17 11:34	01/13/17 23:14	75-35-4	
1,2,4-Trichlorobenzene	<20.7	ug/kg	67.2	20.7	1	01/13/17 11:34	01/13/17 23:14	120-82-1	
1,2,4-Trimethylbenzene	<14.8	ug/kg	67.2	14.8	1	01/13/17 11:34	01/13/17 23:14	95-63-6	
1,2-Dibromoethane (EDB)	<25.3	ug/kg	67.2	25.3	1	01/13/17 11:34	01/13/17 23:14	106-93-4	
1,2-Dichlorobenzene	<13.0	ug/kg	67.2	13.0	1	01/13/17 11:34	01/13/17 23:14	95-50-1	
1,2-Dichloroethane	<21.2	ug/kg	67.2	21.2	1	01/13/17 11:34	01/13/17 23:14	107-06-2	
1,3,5-Trimethylbenzene	<15.5	ug/kg	67.2	15.5	1	01/13/17 11:34	01/13/17 23:14	108-67-8	
1,3-Dichlorobenzene	<19.8	ug/kg	67.2	19.8	1	01/13/17 11:34	01/13/17 23:14	541-73-1	
1,4-Dichlorobenzene	<19.5	ug/kg	67.2	19.5	1	01/13/17 11:34	01/13/17 23:14	106-46-7	
2-Butanone (MEK)	<88.7	ug/kg	336	88.7	1	01/13/17 11:34	01/13/17 23:14	78-93-3	
2-Hexanone	<79.2	ug/kg	336	79.2	1	01/13/17 11:34	01/13/17 23:14	591-78-6	
4-Methyl-2-pentanone (MIBK)	<44.5	ug/kg	336	44.5	1	01/13/17 11:34	01/13/17 23:14	108-10-1	
Acetone	<441	ug/kg	1340	441	1	01/13/17 11:34	01/13/17 23:14	67-64-1	
Benzene	<5.8	ug/kg	26.9	5.8	1	01/13/17 11:34	01/13/17 23:14	71-43-2	
Bromodichloromethane	<18.8	ug/kg	67.2	18.8	1	01/13/17 11:34	01/13/17 23:14	75-27-4	
Bromoform	<57.9	ug/kg	269	57.9	1	01/13/17 11:34	01/13/17 23:14	75-25-2	
Bromomethane	<68.2	ug/kg	672	68.2	1	01/13/17 11:34	01/13/17 23:14	74-83-9	
Carbon tetrachloride	<21.1	ug/kg	67.2	21.1	1	01/13/17 11:34	01/13/17 23:14	56-23-5	
Chlorobenzene	<11.7	ug/kg	67.2	11.7	1	01/13/17 11:34	01/13/17 23:14	108-90-7	
Chloroethane	<106	ug/kg	672	106	1	01/13/17 11:34	01/13/17 23:14	75-00-3	
Chloroform	<32.7	ug/kg	67.2	32.7	1	01/13/17 11:34	01/13/17 23:14	67-66-3	
Chloromethane	<32.5	ug/kg	269	32.5	1	01/13/17 11:34	01/13/17 23:14	74-87-3	
Dibromochloromethane	<57.7	ug/kg	269	57.7	1	01/13/17 11:34	01/13/17 23:14	124-48-1	
Dichlorodifluoromethane	<20.6	ug/kg	269	20.6	1	01/13/17 11:34	01/13/17 23:14	75-71-8	
Ethylbenzene	<21.4	ug/kg	67.2	21.4	1	01/13/17 11:34	01/13/17 23:14	100-41-4	
Hexachloro-1,3-butadiene	<63.2	ug/kg	336	63.2	1	01/13/17 11:34	01/13/17 23:14	87-68-3	
Methyl-tert-butyl ether	<12.6	ug/kg	67.2	12.6	1	01/13/17 11:34	01/13/17 23:14	1634-04-4	
Methylene Chloride	<124	ug/kg	269	124	1	01/13/17 11:34	01/13/17 23:14	75-09-2	
Naphthalene	<16.3	ug/kg	269	16.3	1	01/13/17 11:34	01/13/17 23:14	91-20-3	
Styrene	<17.5	ug/kg	67.2	17.5	1	01/13/17 11:34	01/13/17 23:14	100-42-5	
Tetrachloroethene	<25.7	ug/kg	67.2	25.7	1	01/13/17 11:34	01/13/17 23:14	127-18-4	
Tetrahydrofuran	<333	ug/kg	2690	333	1	01/13/17 11:34	01/13/17 23:14	109-99-9	
Toluene	<21.4	ug/kg	67.2	21.4	1	01/13/17 11:34	01/13/17 23:14	108-88-3	
Trichloroethene	<19.2	ug/kg	67.2	19.2	1	01/13/17 11:34	01/13/17 23:14	79-01-6	
Trichlorofluoromethane	<67.5	ug/kg	269	67.5	1	01/13/17 11:34	01/13/17 23:14	75-69-4	
Vinyl chloride	<8.6	ug/kg	26.9	8.6	1	01/13/17 11:34	01/13/17 23:14	75-01-4	
cis-1,2-Dichloroethene	<25.0	ug/kg	67.2	25.0	1	01/13/17 11:34	01/13/17 23:14	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-25 **Lab ID: 10375758005** Collected: 01/09/17 15:00 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<30.6	ug/kg	67.2	30.6	1	01/13/17 11:34	01/13/17 23:14	10061-01-5	
m&p-Xylene	<33.7	ug/kg	134	33.7	1	01/13/17 11:34	01/13/17 23:14	179601-23-1	
o-Xylene	<20.0	ug/kg	67.2	20.0	1	01/13/17 11:34	01/13/17 23:14	95-47-6	
trans-1,2-Dichloroethene	<32.4	ug/kg	67.2	32.4	1	01/13/17 11:34	01/13/17 23:14	156-60-5	
trans-1,3-Dichloropropene	<22.9	ug/kg	269	22.9	1	01/13/17 11:34	01/13/17 23:14	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-129		1	01/13/17 11:34	01/13/17 23:14	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 23:14	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/13/17 11:34	01/13/17 23:14	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-30** Lab ID: **10375758006** Collected: 01/09/17 15:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	37.7	%	0.10	0.10	1		01/13/17 10:31		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<34.3	ug/kg	82.0	34.3	1	01/13/17 11:34	01/13/17 23:31	71-55-6	
1,1,2,2-Tetrachloroethane	<18.2	ug/kg	82.0	18.2	1	01/13/17 11:34	01/13/17 23:31	79-34-5	
1,1,2-Trichloroethane	<17.7	ug/kg	82.0	17.7	1	01/13/17 11:34	01/13/17 23:31	79-00-5	
1,1,2-Trichlorotrifluoroethane	<59.0	ug/kg	328	59.0	1	01/13/17 11:34	01/13/17 23:31	76-13-1	
1,1-Dichloroethane	<31.8	ug/kg	82.0	31.8	1	01/13/17 11:34	01/13/17 23:31	75-34-3	
1,1-Dichloroethene	<20.8	ug/kg	82.0	20.8	1	01/13/17 11:34	01/13/17 23:31	75-35-4	
1,2,4-Trichlorobenzene	<25.3	ug/kg	82.0	25.3	1	01/13/17 11:34	01/13/17 23:31	120-82-1	
1,2,4-Trimethylbenzene	<18.0	ug/kg	82.0	18.0	1	01/13/17 11:34	01/13/17 23:31	95-63-6	
1,2-Dibromoethane (EDB)	<30.8	ug/kg	82.0	30.8	1	01/13/17 11:34	01/13/17 23:31	106-93-4	
1,2-Dichlorobenzene	<15.8	ug/kg	82.0	15.8	1	01/13/17 11:34	01/13/17 23:31	95-50-1	
1,2-Dichloroethane	<25.9	ug/kg	82.0	25.9	1	01/13/17 11:34	01/13/17 23:31	107-06-2	
1,3,5-Trimethylbenzene	<18.9	ug/kg	82.0	18.9	1	01/13/17 11:34	01/13/17 23:31	108-67-8	
1,3-Dichlorobenzene	<24.1	ug/kg	82.0	24.1	1	01/13/17 11:34	01/13/17 23:31	541-73-1	
1,4-Dichlorobenzene	<23.8	ug/kg	82.0	23.8	1	01/13/17 11:34	01/13/17 23:31	106-46-7	
2-Butanone (MEK)	<108	ug/kg	410	108	1	01/13/17 11:34	01/13/17 23:31	78-93-3	
2-Hexanone	<96.6	ug/kg	410	96.6	1	01/13/17 11:34	01/13/17 23:31	591-78-6	
4-Methyl-2-pentanone (MIBK)	<54.3	ug/kg	410	54.3	1	01/13/17 11:34	01/13/17 23:31	108-10-1	
Acetone	<538	ug/kg	1640	538	1	01/13/17 11:34	01/13/17 23:31	67-64-1	
Benzene	<7.1	ug/kg	32.8	7.1	1	01/13/17 11:34	01/13/17 23:31	71-43-2	
Bromodichloromethane	<23.0	ug/kg	82.0	23.0	1	01/13/17 11:34	01/13/17 23:31	75-27-4	
Bromoform	<70.7	ug/kg	328	70.7	1	01/13/17 11:34	01/13/17 23:31	75-25-2	
Bromomethane	<83.1	ug/kg	820	83.1	1	01/13/17 11:34	01/13/17 23:31	74-83-9	
Carbon tetrachloride	30.2J	ug/kg	82.0	25.7	1	01/13/17 11:34	01/13/17 23:31	56-23-5	
Chlorobenzene	<14.3	ug/kg	82.0	14.3	1	01/13/17 11:34	01/13/17 23:31	108-90-7	
Chloroethane	<130	ug/kg	820	130	1	01/13/17 11:34	01/13/17 23:31	75-00-3	
Chloroform	<39.9	ug/kg	82.0	39.9	1	01/13/17 11:34	01/13/17 23:31	67-66-3	
Chloromethane	<39.7	ug/kg	328	39.7	1	01/13/17 11:34	01/13/17 23:31	74-87-3	
Dibromochloromethane	<70.4	ug/kg	328	70.4	1	01/13/17 11:34	01/13/17 23:31	124-48-1	
Dichlorodifluoromethane	<25.1	ug/kg	328	25.1	1	01/13/17 11:34	01/13/17 23:31	75-71-8	
Ethylbenzene	<26.1	ug/kg	82.0	26.1	1	01/13/17 11:34	01/13/17 23:31	100-41-4	
Hexachloro-1,3-butadiene	<77.1	ug/kg	410	77.1	1	01/13/17 11:34	01/13/17 23:31	87-68-3	
Methyl-tert-butyl ether	<15.3	ug/kg	82.0	15.3	1	01/13/17 11:34	01/13/17 23:31	1634-04-4	
Methylene Chloride	<152	ug/kg	328	152	1	01/13/17 11:34	01/13/17 23:31	75-09-2	
Naphthalene	<19.8	ug/kg	328	19.8	1	01/13/17 11:34	01/13/17 23:31	91-20-3	
Styrene	<21.3	ug/kg	82.0	21.3	1	01/13/17 11:34	01/13/17 23:31	100-42-5	
Tetrachloroethene	<31.3	ug/kg	82.0	31.3	1	01/13/17 11:34	01/13/17 23:31	127-18-4	
Tetrahydrofuran	<407	ug/kg	3280	407	1	01/13/17 11:34	01/13/17 23:31	109-99-9	
Toluene	<26.1	ug/kg	82.0	26.1	1	01/13/17 11:34	01/13/17 23:31	108-88-3	
Trichloroethene	<23.5	ug/kg	82.0	23.5	1	01/13/17 11:34	01/13/17 23:31	79-01-6	
Trichlorofluoromethane	<82.3	ug/kg	328	82.3	1	01/13/17 11:34	01/13/17 23:31	75-69-4	
Vinyl chloride	<10.5	ug/kg	32.8	10.5	1	01/13/17 11:34	01/13/17 23:31	75-01-4	
cis-1,2-Dichloroethene	<30.5	ug/kg	82.0	30.5	1	01/13/17 11:34	01/13/17 23:31	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-30 **Lab ID: 10375758006** Collected: 01/09/17 15:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<37.4	ug/kg	82.0	37.4	1	01/13/17 11:34	01/13/17 23:31	10061-01-5	
m&p-Xylene	<41.2	ug/kg	164	41.2	1	01/13/17 11:34	01/13/17 23:31	179601-23-1	
o-Xylene	<24.4	ug/kg	82.0	24.4	1	01/13/17 11:34	01/13/17 23:31	95-47-6	
trans-1,2-Dichloroethene	<39.5	ug/kg	82.0	39.5	1	01/13/17 11:34	01/13/17 23:31	156-60-5	
trans-1,3-Dichloropropene	<27.9	ug/kg	328	27.9	1	01/13/17 11:34	01/13/17 23:31	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-129		1	01/13/17 11:34	01/13/17 23:31	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 23:31	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/13/17 11:34	01/13/17 23:31	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-35** Lab ID: **10375758007** Collected: 01/09/17 15:20 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	30.8	%	0.10	0.10	1		01/13/17 10:31		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.9	ug/kg	66.7	27.9	1	01/13/17 11:34	01/13/17 23:49	71-55-6	
1,1,2,2-Tetrachloroethane	<14.8	ug/kg	66.7	14.8	1	01/13/17 11:34	01/13/17 23:49	79-34-5	
1,1,2-Trichloroethane	<14.4	ug/kg	66.7	14.4	1	01/13/17 11:34	01/13/17 23:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<48.1	ug/kg	267	48.1	1	01/13/17 11:34	01/13/17 23:49	76-13-1	
1,1-Dichloroethane	<25.9	ug/kg	66.7	25.9	1	01/13/17 11:34	01/13/17 23:49	75-34-3	
1,1-Dichloroethene	<17.0	ug/kg	66.7	17.0	1	01/13/17 11:34	01/13/17 23:49	75-35-4	
1,2,4-Trichlorobenzene	<20.6	ug/kg	66.7	20.6	1	01/13/17 11:34	01/13/17 23:49	120-82-1	
1,2,4-Trimethylbenzene	<14.7	ug/kg	66.7	14.7	1	01/13/17 11:34	01/13/17 23:49	95-63-6	
1,2-Dibromoethane (EDB)	<25.1	ug/kg	66.7	25.1	1	01/13/17 11:34	01/13/17 23:49	106-93-4	
1,2-Dichlorobenzene	<12.9	ug/kg	66.7	12.9	1	01/13/17 11:34	01/13/17 23:49	95-50-1	
1,2-Dichloroethane	<21.1	ug/kg	66.7	21.1	1	01/13/17 11:34	01/13/17 23:49	107-06-2	
1,3,5-Trimethylbenzene	<15.4	ug/kg	66.7	15.4	1	01/13/17 11:34	01/13/17 23:49	108-67-8	
1,3-Dichlorobenzene	<19.6	ug/kg	66.7	19.6	1	01/13/17 11:34	01/13/17 23:49	541-73-1	
1,4-Dichlorobenzene	<19.4	ug/kg	66.7	19.4	1	01/13/17 11:34	01/13/17 23:49	106-46-7	
2-Butanone (MEK)	<88.1	ug/kg	334	88.1	1	01/13/17 11:34	01/13/17 23:49	78-93-3	
2-Hexanone	<78.6	ug/kg	334	78.6	1	01/13/17 11:34	01/13/17 23:49	591-78-6	
4-Methyl-2-pentanone (MIBK)	<44.2	ug/kg	334	44.2	1	01/13/17 11:34	01/13/17 23:49	108-10-1	
Acetone	<438	ug/kg	1330	438	1	01/13/17 11:34	01/13/17 23:49	67-64-1	
Benzene	<5.8	ug/kg	26.7	5.8	1	01/13/17 11:34	01/13/17 23:49	71-43-2	
Bromodichloromethane	<18.7	ug/kg	66.7	18.7	1	01/13/17 11:34	01/13/17 23:49	75-27-4	
Bromoform	<57.5	ug/kg	267	57.5	1	01/13/17 11:34	01/13/17 23:49	75-25-2	
Bromomethane	<67.7	ug/kg	66.7	67.7	1	01/13/17 11:34	01/13/17 23:49	74-83-9	
Carbon tetrachloride	58.2J	ug/kg	66.7	21.0	1	01/13/17 11:34	01/13/17 23:49	56-23-5	
Chlorobenzene	<11.6	ug/kg	66.7	11.6	1	01/13/17 11:34	01/13/17 23:49	108-90-7	
Chloroethane	<105	ug/kg	66.7	105	1	01/13/17 11:34	01/13/17 23:49	75-00-3	
Chloroform	<32.4	ug/kg	66.7	32.4	1	01/13/17 11:34	01/13/17 23:49	67-66-3	
Chloromethane	<32.3	ug/kg	267	32.3	1	01/13/17 11:34	01/13/17 23:49	74-87-3	
Dibromochloromethane	<57.3	ug/kg	267	57.3	1	01/13/17 11:34	01/13/17 23:49	124-48-1	
Dichlorodifluoromethane	<20.4	ug/kg	267	20.4	1	01/13/17 11:34	01/13/17 23:49	75-71-8	
Ethylbenzene	<21.2	ug/kg	66.7	21.2	1	01/13/17 11:34	01/13/17 23:49	100-41-4	
Hexachloro-1,3-butadiene	<62.7	ug/kg	334	62.7	1	01/13/17 11:34	01/13/17 23:49	87-68-3	
Methyl-tert-butyl ether	<12.5	ug/kg	66.7	12.5	1	01/13/17 11:34	01/13/17 23:49	1634-04-4	
Methylene Chloride	<124	ug/kg	267	124	1	01/13/17 11:34	01/13/17 23:49	75-09-2	
Naphthalene	<16.2	ug/kg	267	16.2	1	01/13/17 11:34	01/13/17 23:49	91-20-3	
Styrene	<17.4	ug/kg	66.7	17.4	1	01/13/17 11:34	01/13/17 23:49	100-42-5	
Tetrachloroethene	<25.5	ug/kg	66.7	25.5	1	01/13/17 11:34	01/13/17 23:49	127-18-4	
Tetrahydrofuran	<331	ug/kg	2670	331	1	01/13/17 11:34	01/13/17 23:49	109-99-9	
Toluene	<21.2	ug/kg	66.7	21.2	1	01/13/17 11:34	01/13/17 23:49	108-88-3	
Trichloroethene	<19.1	ug/kg	66.7	19.1	1	01/13/17 11:34	01/13/17 23:49	79-01-6	
Trichlorofluoromethane	<67.0	ug/kg	267	67.0	1	01/13/17 11:34	01/13/17 23:49	75-69-4	
Vinyl chloride	<8.6	ug/kg	26.7	8.6	1	01/13/17 11:34	01/13/17 23:49	75-01-4	
cis-1,2-Dichloroethene	<24.8	ug/kg	66.7	24.8	1	01/13/17 11:34	01/13/17 23:49	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-35 **Lab ID: 10375758007** Collected: 01/09/17 15:20 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<30.4	ug/kg	66.7	30.4	1	01/13/17 11:34	01/13/17 23:49	10061-01-5	
m&p-Xylene	<33.5	ug/kg	133	33.5	1	01/13/17 11:34	01/13/17 23:49	179601-23-1	
o-Xylene	<19.9	ug/kg	66.7	19.9	1	01/13/17 11:34	01/13/17 23:49	95-47-6	
trans-1,2-Dichloroethene	<32.2	ug/kg	66.7	32.2	1	01/13/17 11:34	01/13/17 23:49	156-60-5	
trans-1,3-Dichloropropene	<22.7	ug/kg	267	22.7	1	01/13/17 11:34	01/13/17 23:49	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-129		1	01/13/17 11:34	01/13/17 23:49	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 23:49	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/13/17 11:34	01/13/17 23:49	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-40** Lab ID: **10375758008** Collected: 01/09/17 15:30 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.4	%	0.10	0.10	1		01/13/17 10:31		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<32.2	ug/kg	77.1	32.2	1	01/13/17 11:34	01/17/17 10:20	71-55-6	
1,1,2,2-Tetrachloroethane	<17.1	ug/kg	77.1	17.1	1	01/13/17 11:34	01/17/17 10:20	79-34-5	
1,1,2-Trichloroethane	<16.7	ug/kg	77.1	16.7	1	01/13/17 11:34	01/17/17 10:20	79-00-5	
1,1,2-Trichlorotrifluoroethane	<55.5	ug/kg	308	55.5	1	01/13/17 11:34	01/17/17 10:20	76-13-1	
1,1-Dichloroethane	<29.9	ug/kg	77.1	29.9	1	01/13/17 11:34	01/17/17 10:20	75-34-3	
1,1-Dichloroethene	<19.6	ug/kg	77.1	19.6	1	01/13/17 11:34	01/17/17 10:20	75-35-4	
1,2,4-Trichlorobenzene	<23.7	ug/kg	77.1	23.7	1	01/13/17 11:34	01/17/17 10:20	120-82-1	
1,2,4-Trimethylbenzene	<17.0	ug/kg	77.1	17.0	1	01/13/17 11:34	01/17/17 10:20	95-63-6	
1,2-Dibromoethane (EDB)	<29.0	ug/kg	77.1	29.0	1	01/13/17 11:34	01/17/17 10:20	106-93-4	
1,2-Dichlorobenzene	<14.9	ug/kg	77.1	14.9	1	01/13/17 11:34	01/17/17 10:20	95-50-1	
1,2-Dichloroethane	<24.4	ug/kg	77.1	24.4	1	01/13/17 11:34	01/17/17 10:20	107-06-2	
1,3,5-Trimethylbenzene	<17.7	ug/kg	77.1	17.7	1	01/13/17 11:34	01/17/17 10:20	108-67-8	
1,3-Dichlorobenzene	<14.9	ug/kg	77.1	14.9	1	01/13/17 11:34	01/17/17 10:20	541-73-1	
1,4-Dichlorobenzene	<22.4	ug/kg	77.1	22.4	1	01/13/17 11:34	01/17/17 10:20	106-46-7	
2-Butanone (MEK)	<102	ug/kg	385	102	1	01/13/17 11:34	01/17/17 10:20	78-93-3	
2-Hexanone	<90.8	ug/kg	385	90.8	1	01/13/17 11:34	01/17/17 10:20	591-78-6	
4-Methyl-2-pentanone (MIBK)	<51.0	ug/kg	385	51.0	1	01/13/17 11:34	01/17/17 10:20	108-10-1	
Acetone	<506	ug/kg	1540	506	1	01/13/17 11:34	01/17/17 10:20	67-64-1	
Benzene	<6.7	ug/kg	30.8	6.7	1	01/13/17 11:34	01/17/17 10:20	71-43-2	
Bromodichloromethane	<21.6	ug/kg	77.1	21.6	1	01/13/17 11:34	01/17/17 10:20	75-27-4	
Bromoform	<66.5	ug/kg	308	66.5	1	01/13/17 11:34	01/17/17 10:20	75-25-2	
Bromomethane	<78.2	ug/kg	771	78.2	1	01/13/17 11:34	01/17/17 10:20	74-83-9	
Carbon tetrachloride	<24.2	ug/kg	77.1	24.2	1	01/13/17 11:34	01/17/17 10:20	56-23-5	
Chlorobenzene	<13.4	ug/kg	77.1	13.4	1	01/13/17 11:34	01/17/17 10:20	108-90-7	
Chloroethane	<122	ug/kg	771	122	1	01/13/17 11:34	01/17/17 10:20	75-00-3	
Chloroform	<37.5	ug/kg	77.1	37.5	1	01/13/17 11:34	01/17/17 10:20	67-66-3	
Chloromethane	<37.3	ug/kg	308	37.3	1	01/13/17 11:34	01/17/17 10:20	74-87-3	
Dibromochloromethane	<66.1	ug/kg	308	66.1	1	01/13/17 11:34	01/17/17 10:20	124-48-1	
Dichlorodifluoromethane	<23.6	ug/kg	308	23.6	1	01/13/17 11:34	01/17/17 10:20	75-71-8	
Ethylbenzene	<24.5	ug/kg	77.1	24.5	1	01/13/17 11:34	01/17/17 10:20	100-41-4	
Hexachloro-1,3-butadiene	<72.5	ug/kg	385	72.5	1	01/13/17 11:34	01/17/17 10:20	87-68-3	
Methyl-tert-butyl ether	<14.4	ug/kg	77.1	14.4	1	01/13/17 11:34	01/17/17 10:20	1634-04-4	
Methylene Chloride	<143	ug/kg	308	143	1	01/13/17 11:34	01/17/17 10:20	75-09-2	
Naphthalene	<18.7	ug/kg	308	18.7	1	01/13/17 11:34	01/17/17 10:20	91-20-3	
Styrene	<20.0	ug/kg	77.1	20.0	1	01/13/17 11:34	01/17/17 10:20	100-42-5	
Tetrachloroethene	<29.4	ug/kg	77.1	29.4	1	01/13/17 11:34	01/17/17 10:20	127-18-4	
Tetrahydrofuran	<382	ug/kg	3080	382	1	01/13/17 11:34	01/17/17 10:20	109-99-9	
Toluene	<24.5	ug/kg	77.1	24.5	1	01/13/17 11:34	01/17/17 10:20	108-88-3	
Trichloroethene	<22.0	ug/kg	77.1	22.0	1	01/13/17 11:34	01/17/17 10:20	79-01-6	
Trichlorofluoromethane	<77.4	ug/kg	308	77.4	1	01/13/17 11:34	01/17/17 10:20	75-69-4	
Vinyl chloride	<9.9	ug/kg	30.8	9.9	1	01/13/17 11:34	01/17/17 10:20	75-01-4	
cis-1,2-Dichloroethene	<28.7	ug/kg	77.1	28.7	1	01/13/17 11:34	01/17/17 10:20	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-40 **Lab ID: 10375758008** Collected: 01/09/17 15:30 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<35.2	ug/kg	77.1	35.2	1	01/13/17 11:34	01/17/17 10:20	10061-01-5	
m&p-Xylene	<38.7	ug/kg	154	38.7	1	01/13/17 11:34	01/17/17 10:20	179601-23-1	
o-Xylene	<23.0	ug/kg	77.1	23.0	1	01/13/17 11:34	01/17/17 10:20	95-47-6	
trans-1,2-Dichloroethene	<37.2	ug/kg	77.1	37.2	1	01/13/17 11:34	01/17/17 10:20	156-60-5	
trans-1,3-Dichloropropene	<26.2	ug/kg	308	26.2	1	01/13/17 11:34	01/17/17 10:20	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	84	%	75-129		1	01/13/17 11:34	01/17/17 10:20	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/13/17 11:34	01/17/17 10:20	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/13/17 11:34	01/17/17 10:20	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-50** Lab ID: **10375758009** Collected: 01/09/17 15:40 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.8	%	0.10	0.10	1		01/13/17 10:32		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<32.8	ug/kg	78.4	32.8	1	01/13/17 11:34	01/13/17 21:11	71-55-6	
1,1,2,2-Tetrachloroethane	<17.4	ug/kg	78.4	17.4	1	01/13/17 11:34	01/13/17 21:11	79-34-5	
1,1,2-Trichloroethane	<16.9	ug/kg	78.4	16.9	1	01/13/17 11:34	01/13/17 21:11	79-00-5	
1,1,2-Trichlorotrifluoroethane	<56.5	ug/kg	314	56.5	1	01/13/17 11:34	01/13/17 21:11	76-13-1	
1,1-Dichloroethane	<30.4	ug/kg	78.4	30.4	1	01/13/17 11:34	01/13/17 21:11	75-34-3	
1,1-Dichloroethene	<19.9	ug/kg	78.4	19.9	1	01/13/17 11:34	01/13/17 21:11	75-35-4	
1,2,4-Trichlorobenzene	<24.2	ug/kg	78.4	24.2	1	01/13/17 11:34	01/13/17 21:11	120-82-1	
1,2,4-Trimethylbenzene	<17.3	ug/kg	78.4	17.3	1	01/13/17 11:34	01/13/17 21:11	95-63-6	
1,2-Dibromoethane (EDB)	<29.5	ug/kg	78.4	29.5	1	01/13/17 11:34	01/13/17 21:11	106-93-4	
1,2-Dichlorobenzene	<15.2	ug/kg	78.4	15.2	1	01/13/17 11:34	01/13/17 21:11	95-50-1	
1,2-Dichloroethane	<24.8	ug/kg	78.4	24.8	1	01/13/17 11:34	01/13/17 21:11	107-06-2	
1,3,5-Trimethylbenzene	<18.0	ug/kg	78.4	18.0	1	01/13/17 11:34	01/13/17 21:11	108-67-8	
1,3-Dichlorobenzene	<23.1	ug/kg	78.4	23.1	1	01/13/17 11:34	01/13/17 21:11	541-73-1	
1,4-Dichlorobenzene	<22.7	ug/kg	78.4	22.7	1	01/13/17 11:34	01/13/17 21:11	106-46-7	
2-Butanone (MEK)	<104	ug/kg	392	104	1	01/13/17 11:34	01/13/17 21:11	78-93-3	
2-Hexanone	<92.4	ug/kg	392	92.4	1	01/13/17 11:34	01/13/17 21:11	591-78-6	
4-Methyl-2-pentanone (MIBK)	<51.9	ug/kg	392	51.9	1	01/13/17 11:34	01/13/17 21:11	108-10-1	
Acetone	<515	ug/kg	1570	515	1	01/13/17 11:34	01/13/17 21:11	67-64-1	
Benzene	<6.8	ug/kg	31.4	6.8	1	01/13/17 11:34	01/13/17 21:11	71-43-2	
Bromodichloromethane	<22.0	ug/kg	78.4	22.0	1	01/13/17 11:34	01/13/17 21:11	75-27-4	
Bromoform	<67.6	ug/kg	314	67.6	1	01/13/17 11:34	01/13/17 21:11	75-25-2	
Bromomethane	<79.5	ug/kg	784	79.5	1	01/13/17 11:34	01/13/17 21:11	74-83-9	
Carbon tetrachloride	<24.6	ug/kg	78.4	24.6	1	01/13/17 11:34	01/13/17 21:11	56-23-5	
Chlorobenzene	<13.6	ug/kg	78.4	13.6	1	01/13/17 11:34	01/13/17 21:11	108-90-7	
Chloroethane	<124	ug/kg	784	124	1	01/13/17 11:34	01/13/17 21:11	75-00-3	
Chloroform	<38.1	ug/kg	78.4	38.1	1	01/13/17 11:34	01/13/17 21:11	67-66-3	
Chloromethane	<38.0	ug/kg	314	38.0	1	01/13/17 11:34	01/13/17 21:11	74-87-3	
Dibromochloromethane	<67.3	ug/kg	314	67.3	1	01/13/17 11:34	01/13/17 21:11	124-48-1	
Dichlorodifluoromethane	<24.0	ug/kg	314	24.0	1	01/13/17 11:34	01/13/17 21:11	75-71-8	
Ethylbenzene	<24.9	ug/kg	78.4	24.9	1	01/13/17 11:34	01/13/17 21:11	100-41-4	
Hexachloro-1,3-butadiene	<73.7	ug/kg	392	73.7	1	01/13/17 11:34	01/13/17 21:11	87-68-3	
Methyl-tert-butyl ether	<14.7	ug/kg	78.4	14.7	1	01/13/17 11:34	01/13/17 21:11	1634-04-4	
Methylene Chloride	<145	ug/kg	314	145	1	01/13/17 11:34	01/13/17 21:11	75-09-2	
Naphthalene	<19.0	ug/kg	314	19.0	1	01/13/17 11:34	01/13/17 21:11	91-20-3	
Styrene	<20.4	ug/kg	78.4	20.4	1	01/13/17 11:34	01/13/17 21:11	100-42-5	
Tetrachloroethene	<30.0	ug/kg	78.4	30.0	1	01/13/17 11:34	01/13/17 21:11	127-18-4	
Tetrahydrofuran	<389	ug/kg	3140	389	1	01/13/17 11:34	01/13/17 21:11	109-99-9	
Toluene	<24.9	ug/kg	78.4	24.9	1	01/13/17 11:34	01/13/17 21:11	108-88-3	
Trichloroethene	<22.4	ug/kg	78.4	22.4	1	01/13/17 11:34	01/13/17 21:11	79-01-6	
Trichlorofluoromethane	<78.7	ug/kg	314	78.7	1	01/13/17 11:34	01/13/17 21:11	75-69-4	
Vinyl chloride	<10.1	ug/kg	31.4	10.1	1	01/13/17 11:34	01/13/17 21:11	75-01-4	
cis-1,2-Dichloroethene	<29.2	ug/kg	78.4	29.2	1	01/13/17 11:34	01/13/17 21:11	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-50 **Lab ID: 10375758009** Collected: 01/09/17 15:40 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<35.8	ug/kg	78.4	35.8	1	01/13/17 11:34	01/13/17 21:11	10061-01-5	
m&p-Xylene	<39.4	ug/kg	157	39.4	1	01/13/17 11:34	01/13/17 21:11	179601-23-1	
o-Xylene	<23.4	ug/kg	78.4	23.4	1	01/13/17 11:34	01/13/17 21:11	95-47-6	
trans-1,2-Dichloroethene	<37.8	ug/kg	78.4	37.8	1	01/13/17 11:34	01/13/17 21:11	156-60-5	
trans-1,3-Dichloropropene	<26.7	ug/kg	314	26.7	1	01/13/17 11:34	01/13/17 21:11	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-129		1	01/13/17 11:34	01/13/17 21:11	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 21:11	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/13/17 11:34	01/13/17 21:11	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-55** Lab ID: **10375758010** Collected: 01/09/17 16:00 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	33.8	%	0.10	0.10	1		01/13/17 10:32		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<30.9	ug/kg	73.9	30.9	1	01/13/17 11:34	01/13/17 21:28	71-55-6	
1,1,2,2-Tetrachloroethane	<16.4	ug/kg	73.9	16.4	1	01/13/17 11:34	01/13/17 21:28	79-34-5	
1,1,2-Trichloroethane	<16.0	ug/kg	73.9	16.0	1	01/13/17 11:34	01/13/17 21:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<53.2	ug/kg	295	53.2	1	01/13/17 11:34	01/13/17 21:28	76-13-1	
1,1-Dichloroethane	<28.7	ug/kg	73.9	28.7	1	01/13/17 11:34	01/13/17 21:28	75-34-3	
1,1-Dichloroethene	<18.8	ug/kg	73.9	18.8	1	01/13/17 11:34	01/13/17 21:28	75-35-4	
1,2,4-Trichlorobenzene	<22.8	ug/kg	73.9	22.8	1	01/13/17 11:34	01/13/17 21:28	120-82-1	
1,2,4-Trimethylbenzene	<16.3	ug/kg	73.9	16.3	1	01/13/17 11:34	01/13/17 21:28	95-63-6	
1,2-Dibromoethane (EDB)	<27.8	ug/kg	73.9	27.8	1	01/13/17 11:34	01/13/17 21:28	106-93-4	
1,2-Dichlorobenzene	<14.3	ug/kg	73.9	14.3	1	01/13/17 11:34	01/13/17 21:28	95-50-1	
1,2-Dichloroethane	<23.3	ug/kg	73.9	23.3	1	01/13/17 11:34	01/13/17 21:28	107-06-2	
1,3,5-Trimethylbenzene	<17.0	ug/kg	73.9	17.0	1	01/13/17 11:34	01/13/17 21:28	108-67-8	
1,3-Dichlorobenzene	<21.7	ug/kg	73.9	21.7	1	01/13/17 11:34	01/13/17 21:28	541-73-1	
1,4-Dichlorobenzene	<21.4	ug/kg	73.9	21.4	1	01/13/17 11:34	01/13/17 21:28	106-46-7	
2-Butanone (MEK)	<97.5	ug/kg	369	97.5	1	01/13/17 11:34	01/13/17 21:28	78-93-3	
2-Hexanone	<87.0	ug/kg	369	87.0	1	01/13/17 11:34	01/13/17 21:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<48.9	ug/kg	369	48.9	1	01/13/17 11:34	01/13/17 21:28	108-10-1	
Acetone	<485	ug/kg	1480	485	1	01/13/17 11:34	01/13/17 21:28	67-64-1	
Benzene	<6.4	ug/kg	29.5	6.4	1	01/13/17 11:34	01/13/17 21:28	71-43-2	
Bromodichloromethane	<20.7	ug/kg	73.9	20.7	1	01/13/17 11:34	01/13/17 21:28	75-27-4	
Bromoform	<63.7	ug/kg	295	63.7	1	01/13/17 11:34	01/13/17 21:28	75-25-2	
Bromomethane	<74.9	ug/kg	739	74.9	1	01/13/17 11:34	01/13/17 21:28	74-83-9	
Carbon tetrachloride	<23.2	ug/kg	73.9	23.2	1	01/13/17 11:34	01/13/17 21:28	56-23-5	
Chlorobenzene	<12.9	ug/kg	73.9	12.9	1	01/13/17 11:34	01/13/17 21:28	108-90-7	
Chloroethane	<117	ug/kg	739	117	1	01/13/17 11:34	01/13/17 21:28	75-00-3	
Chloroform	<35.9	ug/kg	73.9	35.9	1	01/13/17 11:34	01/13/17 21:28	67-66-3	
Chloromethane	<35.8	ug/kg	295	35.8	1	01/13/17 11:34	01/13/17 21:28	74-87-3	
Dibromochloromethane	<63.4	ug/kg	295	63.4	1	01/13/17 11:34	01/13/17 21:28	124-48-1	
Dichlorodifluoromethane	<22.6	ug/kg	295	22.6	1	01/13/17 11:34	01/13/17 21:28	75-71-8	
Ethylbenzene	<23.5	ug/kg	73.9	23.5	1	01/13/17 11:34	01/13/17 21:28	100-41-4	
Hexachloro-1,3-butadiene	<69.4	ug/kg	369	69.4	1	01/13/17 11:34	01/13/17 21:28	87-68-3	
Methyl-tert-butyl ether	<13.8	ug/kg	73.9	13.8	1	01/13/17 11:34	01/13/17 21:28	1634-04-4	
Methylene Chloride	<137	ug/kg	295	137	1	01/13/17 11:34	01/13/17 21:28	75-09-2	
Naphthalene	<17.9	ug/kg	295	17.9	1	01/13/17 11:34	01/13/17 21:28	91-20-3	
Styrene	<19.2	ug/kg	73.9	19.2	1	01/13/17 11:34	01/13/17 21:28	100-42-5	
Tetrachloroethene	<28.2	ug/kg	73.9	28.2	1	01/13/17 11:34	01/13/17 21:28	127-18-4	
Tetrahydrofuran	<366	ug/kg	2950	366	1	01/13/17 11:34	01/13/17 21:28	109-99-9	
Toluene	<23.5	ug/kg	73.9	23.5	1	01/13/17 11:34	01/13/17 21:28	108-88-3	
Trichloroethene	<21.1	ug/kg	73.9	21.1	1	01/13/17 11:34	01/13/17 21:28	79-01-6	
Trichlorofluoromethane	<74.2	ug/kg	295	74.2	1	01/13/17 11:34	01/13/17 21:28	75-69-4	
Vinyl chloride	<9.5	ug/kg	29.5	9.5	1	01/13/17 11:34	01/13/17 21:28	75-01-4	
cis-1,2-Dichloroethene	<27.5	ug/kg	73.9	27.5	1	01/13/17 11:34	01/13/17 21:28	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-55 **Lab ID: 10375758010** Collected: 01/09/17 16:00 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<33.7	ug/kg	73.9	33.7	1	01/13/17 11:34	01/13/17 21:28	10061-01-5	
m&p-Xylene	<37.1	ug/kg	148	37.1	1	01/13/17 11:34	01/13/17 21:28	179601-23-1	
o-Xylene	<22.0	ug/kg	73.9	22.0	1	01/13/17 11:34	01/13/17 21:28	95-47-6	
trans-1,2-Dichloroethene	<35.6	ug/kg	73.9	35.6	1	01/13/17 11:34	01/13/17 21:28	156-60-5	
trans-1,3-Dichloropropene	<25.1	ug/kg	295	25.1	1	01/13/17 11:34	01/13/17 21:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-129		1	01/13/17 11:34	01/13/17 21:28	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/13/17 11:34	01/13/17 21:28	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/13/17 11:34	01/13/17 21:28	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-60 **Lab ID: 10375758011** Collected: 01/09/17 16:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.7	%	0.10	0.10	1		01/13/17 10:32		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<30.6	ug/kg	73.3	30.6	1	01/13/17 11:34	01/17/17 10:36	71-55-6	
1,1,2,2-Tetrachloroethane	<16.3	ug/kg	73.3	16.3	1	01/13/17 11:34	01/17/17 10:36	79-34-5	
1,1,2-Trichloroethane	<15.8	ug/kg	73.3	15.8	1	01/13/17 11:34	01/17/17 10:36	79-00-5	
1,1,2-Trichlorotrifluoroethane	<52.7	ug/kg	293	52.7	1	01/13/17 11:34	01/17/17 10:36	76-13-1	
1,1-Dichloroethane	<28.4	ug/kg	73.3	28.4	1	01/13/17 11:34	01/17/17 10:36	75-34-3	
1,1-Dichloroethene	<18.6	ug/kg	73.3	18.6	1	01/13/17 11:34	01/17/17 10:36	75-35-4	
1,2,4-Trichlorobenzene	<22.6	ug/kg	73.3	22.6	1	01/13/17 11:34	01/17/17 10:36	120-82-1	
1,2,4-Trimethylbenzene	<16.1	ug/kg	73.3	16.1	1	01/13/17 11:34	01/17/17 10:36	95-63-6	
1,2-Dibromoethane (EDB)	<27.5	ug/kg	73.3	27.5	1	01/13/17 11:34	01/17/17 10:36	106-93-4	
1,2-Dichlorobenzene	<14.2	ug/kg	73.3	14.2	1	01/13/17 11:34	01/17/17 10:36	95-50-1	
1,2-Dichloroethane	<23.1	ug/kg	73.3	23.1	1	01/13/17 11:34	01/17/17 10:36	107-06-2	
1,3,5-Trimethylbenzene	<16.8	ug/kg	73.3	16.8	1	01/13/17 11:34	01/17/17 10:36	108-67-8	
1,3-Dichlorobenzene	<14.2	ug/kg	73.3	14.2	1	01/13/17 11:34	01/17/17 10:36	541-73-1	
1,4-Dichlorobenzene	<21.2	ug/kg	73.3	21.2	1	01/13/17 11:34	01/17/17 10:36	106-46-7	
2-Butanone (MEK)	<96.7	ug/kg	366	96.7	1	01/13/17 11:34	01/17/17 10:36	78-93-3	
2-Hexanone	<86.3	ug/kg	366	86.3	1	01/13/17 11:34	01/17/17 10:36	591-78-6	
4-Methyl-2-pentanone (MIBK)	<48.5	ug/kg	366	48.5	1	01/13/17 11:34	01/17/17 10:36	108-10-1	
Acetone	<481	ug/kg	1470	481	1	01/13/17 11:34	01/17/17 10:36	67-64-1	
Benzene	<6.3	ug/kg	29.3	6.3	1	01/13/17 11:34	01/17/17 10:36	71-43-2	
Bromodichloromethane	<20.5	ug/kg	73.3	20.5	1	01/13/17 11:34	01/17/17 10:36	75-27-4	
Bromoform	<63.1	ug/kg	293	63.1	1	01/13/17 11:34	01/17/17 10:36	75-25-2	
Bromomethane	<74.3	ug/kg	733	74.3	1	01/13/17 11:34	01/17/17 10:36	74-83-9	
Carbon tetrachloride	<23.0	ug/kg	73.3	23.0	1	01/13/17 11:34	01/17/17 10:36	56-23-5	
Chlorobenzene	<12.7	ug/kg	73.3	12.7	1	01/13/17 11:34	01/17/17 10:36	108-90-7	
Chloroethane	<116	ug/kg	733	116	1	01/13/17 11:34	01/17/17 10:36	75-00-3	
Chloroform	<35.6	ug/kg	73.3	35.6	1	01/13/17 11:34	01/17/17 10:36	67-66-3	
Chloromethane	<35.5	ug/kg	293	35.5	1	01/13/17 11:34	01/17/17 10:36	74-87-3	
Dibromochloromethane	<62.9	ug/kg	293	62.9	1	01/13/17 11:34	01/17/17 10:36	124-48-1	
Dichlorodifluoromethane	<22.4	ug/kg	293	22.4	1	01/13/17 11:34	01/17/17 10:36	75-71-8	
Ethylbenzene	<23.3	ug/kg	73.3	23.3	1	01/13/17 11:34	01/17/17 10:36	100-41-4	
Hexachloro-1,3-butadiene	<68.9	ug/kg	366	68.9	1	01/13/17 11:34	01/17/17 10:36	87-68-3	
Methyl-tert-butyl ether	<13.7	ug/kg	73.3	13.7	1	01/13/17 11:34	01/17/17 10:36	1634-04-4	
Methylene Chloride	<136	ug/kg	293	136	1	01/13/17 11:34	01/17/17 10:36	75-09-2	
Naphthalene	<17.7	ug/kg	293	17.7	1	01/13/17 11:34	01/17/17 10:36	91-20-3	
Styrene	<19.0	ug/kg	73.3	19.0	1	01/13/17 11:34	01/17/17 10:36	100-42-5	
Tetrachloroethene	<28.0	ug/kg	73.3	28.0	1	01/13/17 11:34	01/17/17 10:36	127-18-4	
Tetrahydrofuran	<363	ug/kg	2930	363	1	01/13/17 11:34	01/17/17 10:36	109-99-9	
Toluene	<23.3	ug/kg	73.3	23.3	1	01/13/17 11:34	01/17/17 10:36	108-88-3	
Trichloroethene	<21.0	ug/kg	73.3	21.0	1	01/13/17 11:34	01/17/17 10:36	79-01-6	
Trichlorofluoromethane	<73.6	ug/kg	293	73.6	1	01/13/17 11:34	01/17/17 10:36	75-69-4	
Vinyl chloride	<9.4	ug/kg	29.3	9.4	1	01/13/17 11:34	01/17/17 10:36	75-01-4	
cis-1,2-Dichloroethene	<27.3	ug/kg	73.3	27.3	1	01/13/17 11:34	01/17/17 10:36	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-60 **Lab ID: 10375758011** Collected: 01/09/17 16:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<33.4	ug/kg	73.3	33.4	1	01/13/17 11:34	01/17/17 10:36	10061-01-5	
m&p-Xylene	<36.8	ug/kg	147	36.8	1	01/13/17 11:34	01/17/17 10:36	179601-23-1	
o-Xylene	<21.8	ug/kg	73.3	21.8	1	01/13/17 11:34	01/17/17 10:36	95-47-6	
trans-1,2-Dichloroethene	<35.3	ug/kg	73.3	35.3	1	01/13/17 11:34	01/17/17 10:36	156-60-5	
trans-1,3-Dichloropropene	<24.9	ug/kg	293	24.9	1	01/13/17 11:34	01/17/17 10:36	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	86	%	75-129		1	01/13/17 11:34	01/17/17 10:36	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/13/17 11:34	01/17/17 10:36	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/13/17 11:34	01/17/17 10:36	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-GW-63** Lab ID: **10375758012** Collected: 01/10/17 08:30 Received: 01/12/17 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.32	ug/L	2.5	0.32	5		01/13/17 17:05	630-20-6	
1,1,1-Trichloroethane	<0.28	ug/L	2.5	0.28	5		01/13/17 17:05	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	2.5	0.28	5		01/13/17 17:05	79-34-5	
1,1,2-Trichloroethane	<0.32	ug/L	2.5	0.32	5		01/13/17 17:05	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.65	ug/L	5.0	0.65	5		01/13/17 17:05	76-13-1	
1,1-Dichloroethane	<0.28	ug/L	2.5	0.28	5		01/13/17 17:05	75-34-3	
1,1-Dichloroethene	<0.34	ug/L	2.5	0.34	5		01/13/17 17:05	75-35-4	
1,1-Dichloropropene	<0.41	ug/L	2.5	0.41	5		01/13/17 17:05	563-58-6	
1,2,3-Trichlorobenzene	<0.85	ug/L	2.5	0.85	5		01/13/17 17:05	87-61-6	
1,2,3-Trichloropropane	<0.95	ug/L	20.0	0.95	5		01/13/17 17:05	96-18-4	
1,2,4-Trichlorobenzene	<0.70	ug/L	2.5	0.70	5		01/13/17 17:05	120-82-1	
1,2,4-Trimethylbenzene	1.3J	ug/L	2.5	0.34	5		01/13/17 17:05	95-63-6	
1,2-Dibromo-3-chloropropane	<3.0	ug/L	20.0	3.0	5		01/13/17 17:05	96-12-8	
1,2-Dibromoethane (EDB)	<0.46	ug/L	2.5	0.46	5		01/13/17 17:05	106-93-4	
1,2-Dichlorobenzene	<0.39	ug/L	2.5	0.39	5		01/13/17 17:05	95-50-1	
1,2-Dichloroethane	<0.36	ug/L	2.5	0.36	5		01/13/17 17:05	107-06-2	
1,2-Dichloroethene (Total)	<0.82	ug/L	5.0	0.82	5		01/13/17 17:05	540-59-0	
1,2-Dichloropropane	<0.33	ug/L	20.0	0.33	5		01/13/17 17:05	78-87-5	
1,3,5-Trimethylbenzene	<0.21	ug/L	2.5	0.21	5		01/13/17 17:05	108-67-8	
1,3-Dichlorobenzene	<0.42	ug/L	2.5	0.42	5		01/13/17 17:05	541-73-1	
1,3-Dichloropropane	<0.30	ug/L	2.5	0.30	5		01/13/17 17:05	142-28-9	
1,4-Dichlorobenzene	<0.40	ug/L	2.5	0.40	5		01/13/17 17:05	106-46-7	
1,4-Dioxane (p-Dioxane)	<24.0	ug/L	1000	24.0	5		01/13/17 17:05	123-91-1	
2,2,4-Trimethylpentane	<0.44	ug/L	20.0	0.44	5		01/13/17 17:05	540-84-1	
2,2-Dichloropropane	<0.48	ug/L	5.0	0.48	5		01/13/17 17:05	594-20-7	
2-Butanone (MEK)	<5.5	ug/L	25.0	5.5	5		01/13/17 17:05	78-93-3	
2-Chlorotoluene	<0.42	ug/L	2.5	0.42	5		01/13/17 17:05	95-49-8	
2-Hexanone	<0.96	ug/L	25.0	0.96	5		01/13/17 17:05	591-78-6	
4-Chlorotoluene	<0.24	ug/L	2.5	0.24	5		01/13/17 17:05	106-43-4	
4-Methyl-2-pentanone (MIBK)	<4.0	ug/L	25.0	4.0	5		01/13/17 17:05	108-10-1	
Acetone	<3.2	ug/L	100	3.2	5		01/13/17 17:05	67-64-1	
Acrolein	<10.5	ug/L	50.0	10.5	5		01/13/17 17:05	107-02-8	
Acrylonitrile	<2.4	ug/L	50.0	2.4	5		01/13/17 17:05	107-13-1	
Benzene	<0.21	ug/L	2.5	0.21	5		01/13/17 17:05	71-43-2	
Bromobenzene	<0.44	ug/L	2.5	0.44	5		01/13/17 17:05	108-86-1	
Bromochloromethane	<0.41	ug/L	5.0	0.41	5		01/13/17 17:05	74-97-5	
Bromodichloromethane	<0.34	ug/L	2.5	0.34	5		01/13/17 17:05	75-27-4	
Bromoform	<0.55	ug/L	20.0	0.55	5		01/13/17 17:05	75-25-2	
Bromomethane	<1.0	ug/L	20.0	1.0	5		01/13/17 17:05	74-83-9	CL
Carbon disulfide	<1.0	ug/L	5.0	1.0	5		01/13/17 17:05	75-15-0	
Carbon tetrachloride	9.5	ug/L	5.0	0.40	5		01/13/17 17:05	56-23-5	
Chlorobenzene	<0.33	ug/L	2.5	0.33	5		01/13/17 17:05	108-90-7	
Chloroethane	<0.60	ug/L	5.0	0.60	5		01/13/17 17:05	75-00-3	
Chloroform	1.9J	ug/L	5.0	1.0	5		01/13/17 17:05	67-66-3	
Chloromethane	<0.40	ug/L	20.0	0.40	5		01/13/17 17:05	74-87-3	CL
Dibromochloromethane	<0.24	ug/L	2.5	0.24	5		01/13/17 17:05	124-48-1	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-GW-63** Lab ID: **10375758012** Collected: 01/10/17 08:30 Received: 01/12/17 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.70	ug/L	5.0	0.70	5		01/13/17 17:05	74-95-3	
Dichlorodifluoromethane	<0.38	ug/L	5.0	0.38	5		01/13/17 17:05	75-71-8	
Dichlorofluoromethane	<0.27	ug/L	5.0	0.27	5		01/13/17 17:05	75-43-4	
Diisopropyl ether	<0.25	ug/L	5.0	0.25	5		01/13/17 17:05	108-20-3	
Ethyl-tert-butyl ether	<0.31	ug/L	2.5	0.31	5		01/13/17 17:05	637-92-3	
Ethylbenzene	<0.38	ug/L	2.5	0.38	5		01/13/17 17:05	100-41-4	
Hexachloro-1,3-butadiene	<0.65	ug/L	20.0	0.65	5		01/13/17 17:05	87-68-3	
Isopropylbenzene (Cumene)	<0.32	ug/L	2.5	0.32	5		01/13/17 17:05	98-82-8	
Methyl-tert-butyl ether	<0.24	ug/L	2.5	0.24	5		01/13/17 17:05	1634-04-4	
Methylene Chloride	<0.48	ug/L	20.0	0.48	5		01/13/17 17:05	75-09-2	
Naphthalene	1.6J	ug/L	5.0	0.32	5		01/13/17 17:05	91-20-3	
Styrene	<0.28	ug/L	2.5	0.28	5		01/13/17 17:05	100-42-5	
Tetrachloroethene	<0.65	ug/L	2.5	0.65	5		01/13/17 17:05	127-18-4	
Tetrahydrofuran	<7.5	ug/L	50.0	7.5	5		01/13/17 17:05	109-99-9	
Toluene	<0.30	ug/L	2.5	0.30	5		01/13/17 17:05	108-88-3	
Trichloroethene	<0.22	ug/L	2.0	0.22	5		01/13/17 17:05	79-01-6	
Trichlorofluoromethane	<0.28	ug/L	2.5	0.28	5		01/13/17 17:05	75-69-4	
Vinyl acetate	<0.60	ug/L	50.0	0.60	5		01/13/17 17:05	108-05-4	
Vinyl chloride	<0.49	ug/L	1.0	0.49	5		01/13/17 17:05	75-01-4	
Xylene (Total)	<0.77	ug/L	7.5	0.77	5		01/13/17 17:05	1330-20-7	
cis-1,2-Dichloroethene	<0.60	ug/L	2.5	0.60	5		01/13/17 17:05	156-59-2	
cis-1,3-Dichloropropene	<0.34	ug/L	2.5	0.34	5		01/13/17 17:05	10061-01-5	
m&p-Xylene	<0.55	ug/L	5.0	0.55	5		01/13/17 17:05	179601-23-1	
n-Butylbenzene	<0.80	ug/L	2.5	0.80	5		01/13/17 17:05	104-51-8	
n-Propylbenzene	<0.24	ug/L	2.5	0.24	5		01/13/17 17:05	103-65-1	
o-Xylene	<0.22	ug/L	2.5	0.22	5		01/13/17 17:05	95-47-6	
p-Isopropyltoluene	<0.32	ug/L	2.5	0.32	5		01/13/17 17:05	99-87-6	
sec-Butylbenzene	<0.47	ug/L	2.5	0.47	5		01/13/17 17:05	135-98-8	
tert-Amylmethyl ether	<0.36	ug/L	2.5	0.36	5		01/13/17 17:05	994-05-8	
tert-Butyl Alcohol	<4.4	ug/L	50.0	4.4	5		01/13/17 17:05	75-65-0	
tert-Butylbenzene	<0.26	ug/L	2.5	0.26	5		01/13/17 17:05	98-06-6	
trans-1,2-Dichloroethene	<0.75	ug/L	2.5	0.75	5		01/13/17 17:05	156-60-5	
trans-1,3-Dichloropropene	<0.22	ug/L	2.5	0.22	5		01/13/17 17:05	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.2	ug/L	50.0	2.2	5		01/13/17 17:05	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		5		01/13/17 17:05	17060-07-0	1M,HS
Toluene-d8 (S)	98	%	75-125		5		01/13/17 17:05	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		5		01/13/17 17:05	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SSF0-1 Lab ID: 10375758013 Collected: 01/10/17 08:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	12.7	%	0.10	0.10	1		01/13/17 10:32		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.0	ug/kg	55.1	23.0	1	01/13/17 11:34	01/13/17 22:03	71-55-6	
1,1,2,2-Tetrachloroethane	<12.2	ug/kg	55.1	12.2	1	01/13/17 11:34	01/13/17 22:03	79-34-5	
1,1,2-Trichloroethane	<11.9	ug/kg	55.1	11.9	1	01/13/17 11:34	01/13/17 22:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<39.7	ug/kg	220	39.7	1	01/13/17 11:34	01/13/17 22:03	76-13-1	
1,1-Dichloroethane	<21.4	ug/kg	55.1	21.4	1	01/13/17 11:34	01/13/17 22:03	75-34-3	
1,1-Dichloroethene	<14.0	ug/kg	55.1	14.0	1	01/13/17 11:34	01/13/17 22:03	75-35-4	
1,2,4-Trichlorobenzene	<17.0	ug/kg	55.1	17.0	1	01/13/17 11:34	01/13/17 22:03	120-82-1	
1,2,4-Trimethylbenzene	<12.1	ug/kg	55.1	12.1	1	01/13/17 11:34	01/13/17 22:03	95-63-6	
1,2-Dibromoethane (EDB)	<20.7	ug/kg	55.1	20.7	1	01/13/17 11:34	01/13/17 22:03	106-93-4	
1,2-Dichlorobenzene	<10.6	ug/kg	55.1	10.6	1	01/13/17 11:34	01/13/17 22:03	95-50-1	
1,2-Dichloroethane	<17.4	ug/kg	55.1	17.4	1	01/13/17 11:34	01/13/17 22:03	107-06-2	
1,3,5-Trimethylbenzene	<12.7	ug/kg	55.1	12.7	1	01/13/17 11:34	01/13/17 22:03	108-67-8	
1,3-Dichlorobenzene	<16.2	ug/kg	55.1	16.2	1	01/13/17 11:34	01/13/17 22:03	541-73-1	
1,4-Dichlorobenzene	<16.0	ug/kg	55.1	16.0	1	01/13/17 11:34	01/13/17 22:03	106-46-7	
2-Butanone (MEK)	<72.7	ug/kg	275	72.7	1	01/13/17 11:34	01/13/17 22:03	78-93-3	
2-Hexanone	<64.9	ug/kg	275	64.9	1	01/13/17 11:34	01/13/17 22:03	591-78-6	
4-Methyl-2-pentanone (MIBK)	<36.5	ug/kg	275	36.5	1	01/13/17 11:34	01/13/17 22:03	108-10-1	
Acetone	<361	ug/kg	1100	361	1	01/13/17 11:34	01/13/17 22:03	67-64-1	
Benzene	<4.8	ug/kg	22.0	4.8	1	01/13/17 11:34	01/13/17 22:03	71-43-2	
Bromodichloromethane	<15.4	ug/kg	55.1	15.4	1	01/13/17 11:34	01/13/17 22:03	75-27-4	
Bromoform	<47.5	ug/kg	220	47.5	1	01/13/17 11:34	01/13/17 22:03	75-25-2	
Bromomethane	<55.9	ug/kg	551	55.9	1	01/13/17 11:34	01/13/17 22:03	74-83-9	
Carbon tetrachloride	<17.3	ug/kg	55.1	17.3	1	01/13/17 11:34	01/13/17 22:03	56-23-5	
Chlorobenzene	<9.6	ug/kg	55.1	9.6	1	01/13/17 11:34	01/13/17 22:03	108-90-7	
Chloroethane	<87.1	ug/kg	551	87.1	1	01/13/17 11:34	01/13/17 22:03	75-00-3	
Chloroform	<26.8	ug/kg	55.1	26.8	1	01/13/17 11:34	01/13/17 22:03	67-66-3	
Chloromethane	<26.7	ug/kg	220	26.7	1	01/13/17 11:34	01/13/17 22:03	74-87-3	
Dibromochloromethane	<47.3	ug/kg	220	47.3	1	01/13/17 11:34	01/13/17 22:03	124-48-1	
Dichlorodifluoromethane	<16.9	ug/kg	220	16.9	1	01/13/17 11:34	01/13/17 22:03	75-71-8	
Ethylbenzene	<17.5	ug/kg	55.1	17.5	1	01/13/17 11:34	01/13/17 22:03	100-41-4	
Hexachloro-1,3-butadiene	<51.8	ug/kg	275	51.8	1	01/13/17 11:34	01/13/17 22:03	87-68-3	
Methyl-tert-butyl ether	<10.3	ug/kg	55.1	10.3	1	01/13/17 11:34	01/13/17 22:03	1634-04-4	
Methylene Chloride	<102	ug/kg	220	102	1	01/13/17 11:34	01/13/17 22:03	75-09-2	
Naphthalene	<13.3	ug/kg	220	13.3	1	01/13/17 11:34	01/13/17 22:03	91-20-3	
Styrene	<14.3	ug/kg	55.1	14.3	1	01/13/17 11:34	01/13/17 22:03	100-42-5	
Tetrachloroethene	<21.0	ug/kg	55.1	21.0	1	01/13/17 11:34	01/13/17 22:03	127-18-4	
Tetrahydrofuran	<273	ug/kg	2200	273	1	01/13/17 11:34	01/13/17 22:03	109-99-9	
Toluene	<17.5	ug/kg	55.1	17.5	1	01/13/17 11:34	01/13/17 22:03	108-88-3	
Trichloroethene	<15.8	ug/kg	55.1	15.8	1	01/13/17 11:34	01/13/17 22:03	79-01-6	
Trichlorofluoromethane	<55.3	ug/kg	220	55.3	1	01/13/17 11:34	01/13/17 22:03	75-69-4	
Vinyl chloride	<7.1	ug/kg	22.0	7.1	1	01/13/17 11:34	01/13/17 22:03	75-01-4	
cis-1,2-Dichloroethene	<20.5	ug/kg	55.1	20.5	1	01/13/17 11:34	01/13/17 22:03	156-59-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SSF0-1 **Lab ID: 10375758013** Collected: 01/10/17 08:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<25.1	ug/kg	55.1	25.1	1	01/13/17 11:34	01/13/17 22:03	10061-01-5	
m&p-Xylene	<27.7	ug/kg	110	27.7	1	01/13/17 11:34	01/13/17 22:03	179601-23-1	
o-Xylene	<16.4	ug/kg	55.1	16.4	1	01/13/17 11:34	01/13/17 22:03	95-47-6	
trans-1,2-Dichloroethene	<26.6	ug/kg	55.1	26.6	1	01/13/17 11:34	01/13/17 22:03	156-60-5	
trans-1,3-Dichloropropene	<18.7	ug/kg	220	18.7	1	01/13/17 11:34	01/13/17 22:03	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-129		1	01/13/17 11:34	01/13/17 22:03	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 22:03	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/13/17 11:34	01/13/17 22:03	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: **SB34-SS-65** Lab ID: **10375758014** Collected: 01/10/17 09:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	13.6	%	0.10	0.10	1		01/13/17 10:33		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.1	ug/kg	60.0	25.1	1	01/13/17 11:34	01/13/17 22:21	71-55-6	
1,1,2,2-Tetrachloroethane	<13.3	ug/kg	60.0	13.3	1	01/13/17 11:34	01/13/17 22:21	79-34-5	
1,1,2-Trichloroethane	<13.0	ug/kg	60.0	13.0	1	01/13/17 11:34	01/13/17 22:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<43.2	ug/kg	240	43.2	1	01/13/17 11:34	01/13/17 22:21	76-13-1	
1,1-Dichloroethane	<23.3	ug/kg	60.0	23.3	1	01/13/17 11:34	01/13/17 22:21	75-34-3	
1,1-Dichloroethene	<15.2	ug/kg	60.0	15.2	1	01/13/17 11:34	01/13/17 22:21	75-35-4	
1,2,4-Trichlorobenzene	<18.5	ug/kg	60.0	18.5	1	01/13/17 11:34	01/13/17 22:21	120-82-1	
1,2,4-Trimethylbenzene	<13.2	ug/kg	60.0	13.2	1	01/13/17 11:34	01/13/17 22:21	95-63-6	
1,2-Dibromoethane (EDB)	<22.6	ug/kg	60.0	22.6	1	01/13/17 11:34	01/13/17 22:21	106-93-4	
1,2-Dichlorobenzene	<11.6	ug/kg	60.0	11.6	1	01/13/17 11:34	01/13/17 22:21	95-50-1	
1,2-Dichloroethane	<19.0	ug/kg	60.0	19.0	1	01/13/17 11:34	01/13/17 22:21	107-06-2	
1,3,5-Trimethylbenzene	<13.8	ug/kg	60.0	13.8	1	01/13/17 11:34	01/13/17 22:21	108-67-8	
1,3-Dichlorobenzene	<17.6	ug/kg	60.0	17.6	1	01/13/17 11:34	01/13/17 22:21	541-73-1	
1,4-Dichlorobenzene	<17.4	ug/kg	60.0	17.4	1	01/13/17 11:34	01/13/17 22:21	106-46-7	
2-Butanone (MEK)	<79.2	ug/kg	300	79.2	1	01/13/17 11:34	01/13/17 22:21	78-93-3	
2-Hexanone	<70.7	ug/kg	300	70.7	1	01/13/17 11:34	01/13/17 22:21	591-78-6	
4-Methyl-2-pentanone (MIBK)	<39.7	ug/kg	300	39.7	1	01/13/17 11:34	01/13/17 22:21	108-10-1	
Acetone	<394	ug/kg	1200	394	1	01/13/17 11:34	01/13/17 22:21	67-64-1	
Benzene	<5.2	ug/kg	24.0	5.2	1	01/13/17 11:34	01/13/17 22:21	71-43-2	
Bromodichloromethane	<16.8	ug/kg	60.0	16.8	1	01/13/17 11:34	01/13/17 22:21	75-27-4	
Bromoform	<51.7	ug/kg	240	51.7	1	01/13/17 11:34	01/13/17 22:21	75-25-2	
Bromomethane	<60.8	ug/kg	600	60.8	1	01/13/17 11:34	01/13/17 22:21	74-83-9	
Carbon tetrachloride	<18.8	ug/kg	60.0	18.8	1	01/13/17 11:34	01/13/17 22:21	56-23-5	
Chlorobenzene	<10.4	ug/kg	60.0	10.4	1	01/13/17 11:34	01/13/17 22:21	108-90-7	
Chloroethane	<94.8	ug/kg	600	94.8	1	01/13/17 11:34	01/13/17 22:21	75-00-3	
Chloroform	<29.2	ug/kg	60.0	29.2	1	01/13/17 11:34	01/13/17 22:21	67-66-3	
Chloromethane	<29.0	ug/kg	240	29.0	1	01/13/17 11:34	01/13/17 22:21	74-87-3	
Dibromochloromethane	<51.5	ug/kg	240	51.5	1	01/13/17 11:34	01/13/17 22:21	124-48-1	
Dichlorodifluoromethane	<18.4	ug/kg	240	18.4	1	01/13/17 11:34	01/13/17 22:21	75-71-8	
Ethylbenzene	<19.1	ug/kg	60.0	19.1	1	01/13/17 11:34	01/13/17 22:21	100-41-4	
Hexachloro-1,3-butadiene	<56.4	ug/kg	300	56.4	1	01/13/17 11:34	01/13/17 22:21	87-68-3	
Methyl-tert-butyl ether	<11.2	ug/kg	60.0	11.2	1	01/13/17 11:34	01/13/17 22:21	1634-04-4	
Methylene Chloride	<111	ug/kg	240	111	1	01/13/17 11:34	01/13/17 22:21	75-09-2	
Naphthalene	<14.5	ug/kg	240	14.5	1	01/13/17 11:34	01/13/17 22:21	91-20-3	
Styrene	<15.6	ug/kg	60.0	15.6	1	01/13/17 11:34	01/13/17 22:21	100-42-5	
Tetrachloroethene	<22.9	ug/kg	60.0	22.9	1	01/13/17 11:34	01/13/17 22:21	127-18-4	
Tetrahydrofuran	<298	ug/kg	2400	298	1	01/13/17 11:34	01/13/17 22:21	109-99-9	
Toluene	<19.1	ug/kg	60.0	19.1	1	01/13/17 11:34	01/13/17 22:21	108-88-3	
Trichloroethene	<17.2	ug/kg	60.0	17.2	1	01/13/17 11:34	01/13/17 22:21	79-01-6	
Trichlorofluoromethane	<60.2	ug/kg	240	60.2	1	01/13/17 11:34	01/13/17 22:21	75-69-4	
Vinyl chloride	<7.7	ug/kg	24.0	7.7	1	01/13/17 11:34	01/13/17 22:21	75-01-4	
cis-1,2-Dichloroethene	<22.3	ug/kg	60.0	22.3	1	01/13/17 11:34	01/13/17 22:21	156-59-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-65 **Lab ID: 10375758014** Collected: 01/10/17 09:10 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<27.4	ug/kg	60.0	27.4	1	01/13/17 11:34	01/13/17 22:21	10061-01-5	
m&p-Xylene	<30.1	ug/kg	120	30.1	1	01/13/17 11:34	01/13/17 22:21	179601-23-1	
o-Xylene	<17.9	ug/kg	60.0	17.9	1	01/13/17 11:34	01/13/17 22:21	95-47-6	
trans-1,2-Dichloroethene	<28.9	ug/kg	60.0	28.9	1	01/13/17 11:34	01/13/17 22:21	156-60-5	
trans-1,3-Dichloropropene	<20.4	ug/kg	240	20.4	1	01/13/17 11:34	01/13/17 22:21	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-129		1	01/13/17 11:34	01/13/17 22:21	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/13/17 11:34	01/13/17 22:21	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/13/17 11:34	01/13/17 22:21	460-00-4	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-45 Lab ID: 10375758015 Collected: 01/09/17 15:40 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.0	%	0.10	0.10	1		01/13/17 10:33		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	< 28.1	ug/kg	67.2	28.1	1	01/13/17 11:34	01/13/17 21:46	71-55-6	
1,1,2,2-Tetrachloroethane	< 14.9	ug/kg	67.2	14.9	1	01/13/17 11:34	01/13/17 21:46	79-34-5	
1,1,2-Trichloroethane	< 14.5	ug/kg	67.2	14.5	1	01/13/17 11:34	01/13/17 21:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	< 48.4	ug/kg	269	48.4	1	01/13/17 11:34	01/13/17 21:46	76-13-1	
1,1-Dichloroethane	< 26.1	ug/kg	67.2	26.1	1	01/13/17 11:34	01/13/17 21:46	75-34-3	
1,1-Dichloroethene	< 17.1	ug/kg	67.2	17.1	1	01/13/17 11:34	01/13/17 21:46	75-35-4	
1,2,4-Trichlorobenzene	< 20.7	ug/kg	67.2	20.7	1	01/13/17 11:34	01/13/17 21:46	120-82-1	
1,2,4-Trimethylbenzene	< 14.8	ug/kg	67.2	14.8	1	01/13/17 11:34	01/13/17 21:46	95-63-6	
1,2-Dibromoethane (EDB)	< 25.3	ug/kg	67.2	25.3	1	01/13/17 11:34	01/13/17 21:46	106-93-4	
1,2-Dichlorobenzene	< 13.0	ug/kg	67.2	13.0	1	01/13/17 11:34	01/13/17 21:46	95-50-1	
1,2-Dichloroethane	< 21.2	ug/kg	67.2	21.2	1	01/13/17 11:34	01/13/17 21:46	107-06-2	
1,3,5-Trimethylbenzene	< 15.5	ug/kg	67.2	15.5	1	01/13/17 11:34	01/13/17 21:46	108-67-8	
1,3-Dichlorobenzene	< 19.8	ug/kg	67.2	19.8	1	01/13/17 11:34	01/13/17 21:46	541-73-1	
1,4-Dichlorobenzene	< 19.5	ug/kg	67.2	19.5	1	01/13/17 11:34	01/13/17 21:46	106-46-7	
2-Butanone (MEK)	< 88.7	ug/kg	336	88.7	1	01/13/17 11:34	01/13/17 21:46	78-93-3	
2-Hexanone	< 79.2	ug/kg	336	79.2	1	01/13/17 11:34	01/13/17 21:46	591-78-6	
4-Methyl-2-pentanone (MIBK)	< 44.5	ug/kg	336	44.5	1	01/13/17 11:34	01/13/17 21:46	108-10-1	
Acetone	< 441	ug/kg	1340	441	1	01/13/17 11:34	01/13/17 21:46	67-64-1	
Benzene	< 5.8	ug/kg	26.9	5.8	1	01/13/17 11:34	01/13/17 21:46	71-43-2	
Bromodichloromethane	< 18.8	ug/kg	67.2	18.8	1	01/13/17 11:34	01/13/17 21:46	75-27-4	
Bromoform	< 57.9	ug/kg	269	57.9	1	01/13/17 11:34	01/13/17 21:46	75-25-2	
Bromomethane	< 68.1	ug/kg	672	68.1	1	01/13/17 11:34	01/13/17 21:46	74-83-9	
Carbon tetrachloride	< 21.1	ug/kg	67.2	21.1	1	01/13/17 11:34	01/13/17 21:46	56-23-5	
Chlorobenzene	< 11.7	ug/kg	67.2	11.7	1	01/13/17 11:34	01/13/17 21:46	108-90-7	
Chloroethane	< 106	ug/kg	672	106	1	01/13/17 11:34	01/13/17 21:46	75-00-3	
Chloroform	< 32.7	ug/kg	67.2	32.7	1	01/13/17 11:34	01/13/17 21:46	67-66-3	
Chloromethane	< 32.5	ug/kg	269	32.5	1	01/13/17 11:34	01/13/17 21:46	74-87-3	
Dibromochloromethane	< 57.7	ug/kg	269	57.7	1	01/13/17 11:34	01/13/17 21:46	124-48-1	
Dichlorodifluoromethane	< 20.6	ug/kg	269	20.6	1	01/13/17 11:34	01/13/17 21:46	75-71-8	
Ethylbenzene	< 21.4	ug/kg	67.2	21.4	1	01/13/17 11:34	01/13/17 21:46	100-41-4	
Hexachloro-1,3-butadiene	< 63.2	ug/kg	336	63.2	1	01/13/17 11:34	01/13/17 21:46	87-68-3	
Methyl-tert-butyl ether	< 12.6	ug/kg	67.2	12.6	1	01/13/17 11:34	01/13/17 21:46	1634-04-4	
Methylene Chloride	< 124	ug/kg	269	124	1	01/13/17 11:34	01/13/17 21:46	75-09-2	
Naphthalene	< 16.3	ug/kg	269	16.3	1	01/13/17 11:34	01/13/17 21:46	91-20-3	
Styrene	< 17.5	ug/kg	67.2	17.5	1	01/13/17 11:34	01/13/17 21:46	100-42-5	
Tetrachloroethene	< 25.7	ug/kg	67.2	25.7	1	01/13/17 11:34	01/13/17 21:46	127-18-4	
Tetrahydrofuran	< 333	ug/kg	2690	333	1	01/13/17 11:34	01/13/17 21:46	109-99-9	
Toluene	< 21.4	ug/kg	67.2	21.4	1	01/13/17 11:34	01/13/17 21:46	108-88-3	
Trichloroethene	< 19.2	ug/kg	67.2	19.2	1	01/13/17 11:34	01/13/17 21:46	79-01-6	
Trichlorofluoromethane	< 67.5	ug/kg	269	67.5	1	01/13/17 11:34	01/13/17 21:46	75-69-4	
Vinyl chloride	< 8.6	ug/kg	26.9	8.6	1	01/13/17 11:34	01/13/17 21:46	75-01-4	
cis-1,2-Dichloroethene	< 25.0	ug/kg	67.2	25.0	1	01/13/17 11:34	01/13/17 21:46	156-59-2	

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ANALYTICAL RESULTS

Project: UPRR Freeman RI

Pace Project No.: 10375758

Sample: SB34-SS-45 **Lab ID: 10375758015** Collected: 01/09/17 15:40 Received: 01/12/17 10:00 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,3-Dichloropropene	<30.6	ug/kg	67.2	30.6	1	01/13/17 11:34	01/13/17 21:46	10061-01-5	
m&p-Xylene	<33.7	ug/kg	134	33.7	1	01/13/17 11:34	01/13/17 21:46	179601-23-1	
o-Xylene	<20.0	ug/kg	67.2	20.0	1	01/13/17 11:34	01/13/17 21:46	95-47-6	
trans-1,2-Dichloroethene	<32.4	ug/kg	67.2	32.4	1	01/13/17 11:34	01/13/17 21:46	156-60-5	
trans-1,3-Dichloropropene	<22.8	ug/kg	269	22.8	1	01/13/17 11:34	01/13/17 21:46	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-129		1	01/13/17 11:34	01/13/17 21:46	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/13/17 11:34	01/13/17 21:46	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/13/17 11:34	01/13/17 21:46	460-00-4	

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QUALITY CONTROL DATA

Project: UPRR Freeman RI
Pace Project No.: 10375758

QC Batch: 455572 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10375758001, 10375758002, 10375758003, 10375758004, 10375758005, 10375758006, 10375758007, 10375758008, 10375758009, 10375758010, 10375758011, 10375758013, 10375758014, 10375758015

METHOD BLANK: 2493328 Matrix: Solid
Associated Lab Samples: 10375758001, 10375758002, 10375758003, 10375758004, 10375758005, 10375758006, 10375758007, 10375758008, 10375758009, 10375758010, 10375758011, 10375758013, 10375758014, 10375758015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	01/13/17 18:15	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	01/13/17 18:15	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	01/13/17 18:15	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	01/13/17 18:15	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	01/13/17 18:15	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	01/13/17 18:15	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	01/13/17 18:15	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	01/13/17 18:15	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	01/13/17 18:15	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/13/17 18:15	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	01/13/17 18:15	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	01/13/17 18:15	
1,3-Dichlorobenzene	ug/kg	<14.7	50.0	14.7	01/13/17 18:15	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	01/13/17 18:15	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	01/13/17 18:15	
2-Hexanone	ug/kg	<58.9	250	58.9	01/13/17 18:15	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	01/13/17 18:15	
Acetone	ug/kg	<328	1000	328	01/13/17 18:15	
Benzene	ug/kg	<4.3	20.0	4.3	01/13/17 18:15	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	01/13/17 18:15	
Bromoform	ug/kg	<43.1	200	43.1	01/13/17 18:15	
Bromomethane	ug/kg	<50.7	500	50.7	01/13/17 18:15	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	01/13/17 18:15	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	01/13/17 18:15	
Chloroethane	ug/kg	<79.0	500	79.0	01/13/17 18:15	
Chloroform	ug/kg	<24.3	50.0	24.3	01/13/17 18:15	
Chloromethane	ug/kg	<24.2	200	24.2	01/13/17 18:15	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	01/13/17 18:15	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	01/13/17 18:15	
Dibromochloromethane	ug/kg	<42.9	200	42.9	01/13/17 18:15	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	01/13/17 18:15	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	01/13/17 18:15	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	01/13/17 18:15	
m&p-Xylene	ug/kg	<25.1	100	25.1	01/13/17 18:15	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	01/13/17 18:15	
Methylene Chloride	ug/kg	<92.6	200	92.6	01/13/17 18:15	
Naphthalene	ug/kg	<12.1	200	12.1	01/13/17 18:15	
o-Xylene	ug/kg	<14.9	50.0	14.9	01/13/17 18:15	
Styrene	ug/kg	<13.0	50.0	13.0	01/13/17 18:15	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	01/13/17 18:15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman RI
Pace Project No.: 10375758

METHOD BLANK: 2493328 Matrix: Solid
Associated Lab Samples: 10375758001, 10375758002, 10375758003, 10375758004, 10375758005, 10375758006, 10375758007, 10375758008, 10375758009, 10375758010, 10375758011, 10375758013, 10375758014, 10375758015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Tetrahydrofuran	ug/kg	<248	2000	248	01/13/17 18:15	
Toluene	ug/kg	<15.9	50.0	15.9	01/13/17 18:15	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	01/13/17 18:15	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	01/13/17 18:15	
Trichloroethene	ug/kg	<14.3	50.0	14.3	01/13/17 18:15	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	01/13/17 18:15	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	01/13/17 18:15	
1,2-Dichloroethane-d4 (S)	%	92	75-129		01/13/17 18:15	
4-Bromofluorobenzene (S)	%	104	75-125		01/13/17 18:15	
Toluene-d8 (S)	%	100	75-125		01/13/17 18:15	

LABORATORY CONTROL SAMPLE & LCSD: 2493329

2493330

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	771	798	77	80	64-132	3	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	800	777	80	78	50-138	3	20	
1,1,2-Trichloroethane	ug/kg	1000	782	761	78	76	69-126	3	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	661	685	66	68	53-144	4	20	
1,1-Dichloroethane	ug/kg	1000	756	745	76	75	61-134	1	20	
1,1-Dichloroethene	ug/kg	1000	716	741	72	74	57-135	3	20	
1,2,4-Trichlorobenzene	ug/kg	1000	747	734	75	73	38-138	2	20	
1,2,4-Trimethylbenzene	ug/kg	1000	788	785	79	79	70-127	0	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	832	819	83	82	69-130	2	20	
1,2-Dichlorobenzene	ug/kg	1000	750	730	75	73	72-125	3	20	
1,2-Dichloroethane	ug/kg	1000	726	722	73	72	62-125	1	20	
1,3,5-Trimethylbenzene	ug/kg	1000	812	800	81	80	71-129	1	20	
1,3-Dichlorobenzene	ug/kg	1000	746	735	75	73	72-126	2	20	
1,4-Dichlorobenzene	ug/kg	1000	748	741	75	74	70-126	1	20	
2-Butanone (MEK)	ug/kg	5000	3230	3240	65	65	38-149	0	20	
2-Hexanone	ug/kg	5000	3830	3700	77	74	47-139	3	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	3870	3780	77	76	52-145	2	20	
Acetone	ug/kg	5000	4260	4120	85	82	65-142	3	20	
Benzene	ug/kg	1000	746	751	75	75	64-125	1	20	
Bromodichloromethane	ug/kg	1000	780	756	78	76	67-125	3	20	
Bromoform	ug/kg	1000	852	804	85	80	56-127	6	20	
Bromomethane	ug/kg	1000	709	618	71	62	34-137	14	20	
Carbon tetrachloride	ug/kg	1000	833	830	83	83	58-138	0	20	
Chlorobenzene	ug/kg	1000	763	745	76	75	72-125	2	20	
Chloroethane	ug/kg	1000	769	753	77	75	39-148	2	20	
Chloroform	ug/kg	1000	729	720	73	72	67-125	1	20	
Chloromethane	ug/kg	1000	698	695	70	69	54-125	0	20	
cis-1,2-Dichloroethene	ug/kg	1000	763	751	76	75	67-125	2	20	
cis-1,3-Dichloropropene	ug/kg	1000	789	757	79	76	62-127	4	20	

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QUALITY CONTROL DATA

Project: UPRR Freeman RI

Pace Project No.: 10375758

LABORATORY CONTROL SAMPLE & LCSD: 2493329		2493330								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/kg	1000	804	794	80	79	67-125	1	20	
Dichlorodifluoromethane	ug/kg	1000	634	624	63	62	34-139	2	20	
Ethylbenzene	ug/kg	1000	775	779	78	78	70-129	1	20	
Hexachloro-1,3-butadiene	ug/kg	1000	750	731	75	73	48-126	3	20	
m&p-Xylene	ug/kg	2000	1580	1580	79	79	73-131	0	20	
Methyl-tert-butyl ether	ug/kg	1000	743	737	74	74	61-125	1	20	
Methylene Chloride	ug/kg	1000	753	744	75	74	60-126	1	20	
Naphthalene	ug/kg	1000	775	758	77	76	35-147	2	20	
o-Xylene	ug/kg	1000	777	781	78	78	74-127	0	20	
Styrene	ug/kg	1000	817	805	82	81	73-125	1	20	
Tetrachloroethene	ug/kg	1000	794	761	79	76	66-135	4	20	
Tetrahydrofuran	ug/kg	10000	8900	8690	89	87	66-145	2	20	
Toluene	ug/kg	1000	778	763	78	76	69-125	2	20	
trans-1,2-Dichloroethene	ug/kg	1000	747	745	75	75	55-135	0	20	
trans-1,3-Dichloropropene	ug/kg	1000	865	821	86	82	67-125	5	20	
Trichloroethene	ug/kg	1000	774	758	77	76	62-141	2	20	
Trichlorofluoromethane	ug/kg	1000	726	759	73	76	38-150	4	20	
Vinyl chloride	ug/kg	1000	751	742	75	74	57-131	1	20	
1,2-Dichloroethane-d4 (S)	%				89	90	75-129			
4-Bromofluorobenzene (S)	%				101	100	75-125			
Toluene-d8 (S)	%				101	100	75-125			

MATRIX SPIKE SAMPLE: 2493331		10375757001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	ND	1180	982	83	51-137	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1180	1050	89	40-149	
1,1,2-Trichloroethane	ug/kg	ND	1180	981	83	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1180	851	72	41-150	
1,1-Dichloroethane	ug/kg	ND	1180	963	81	53-131	
1,1-Dichloroethene	ug/kg	ND	1180	922	78	41-133	
1,2,4-Trichlorobenzene	ug/kg	ND	1180	940	79	52-142	
1,2,4-Trimethylbenzene	ug/kg	ND	1180	1000	85	56-142	
1,2-Dibromoethane (EDB)	ug/kg	ND	1180	1090	93	57-136	
1,2-Dichlorobenzene	ug/kg	ND	1180	947	80	59-136	
1,2-Dichloroethane	ug/kg	ND	1180	920	78	52-133	
1,3,5-Trimethylbenzene	ug/kg	ND	1180	1020	86	54-143	
1,3-Dichlorobenzene	ug/kg	ND	1180	923	78	60-137	
1,4-Dichlorobenzene	ug/kg	ND	1180	943	80	51-132	
2-Butanone (MEK)	ug/kg	ND	5910	4580	77	46-125	
2-Hexanone	ug/kg	ND	5910	5120	87	52-128	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	5910	5240	89	47-146	
Acetone	ug/kg	ND	5910	4800	81	45-148	
Benzene	ug/kg	ND	1180	945	80	41-134	
Bromodichloromethane	ug/kg	ND	1180	950	80	55-136	

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QUALITY CONTROL DATA

Project: UPRR Freeman RI

Pace Project No.: 10375758

MATRIX SPIKE SAMPLE: 2493331

Parameter	Units	10375757001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/kg	ND	1180	1030	87	51-139	
Bromomethane	ug/kg	ND	1180	902	76	35-148	
Carbon tetrachloride	ug/kg	ND	1180	1080	92	50-140	
Chlorobenzene	ug/kg	ND	1180	932	79	59-133	
Chloroethane	ug/kg	ND	1180	1070	90	30-150	
Chloroform	ug/kg	ND	1180	928	78	58-128	
Chloromethane	ug/kg	ND	1180	930	79	38-125	
cis-1,2-Dichloroethene	ug/kg	ND	1180	956	81	59-125	
cis-1,3-Dichloropropene	ug/kg	ND	1180	956	81	57-133	
Dibromochloromethane	ug/kg	ND	1180	1020	86	54-141	
Dichlorodifluoromethane	ug/kg	ND	1180	719	61	30-125	
Ethylbenzene	ug/kg	ND	1180	978	83	56-141	
Hexachloro-1,3-butadiene	ug/kg	ND	1180	979	83	45-150	
m&p-Xylene	ug/kg	ND	2360	1980	84	58-139	
Methyl-tert-butyl ether	ug/kg	ND	1180	973	82	53-133	
Methylene Chloride	ug/kg	ND	1180	844	68	42-135	
Naphthalene	ug/kg	ND	1180	1040	88	41-150	
o-Xylene	ug/kg	ND	1180	983	83	53-132	
Styrene	ug/kg	ND	1180	992	84	53-137	
Tetrachloroethene	ug/kg	ND	1180	986	83	53-138	
Tetrahydrofuran	ug/kg	ND	11800	10000	85	50-145	
Toluene	ug/kg	ND	1180	973	82	55-134	
trans-1,2-Dichloroethene	ug/kg	ND	1180	946	80	44-135	
trans-1,3-Dichloropropene	ug/kg	ND	1180	1090	92	59-139	
Trichloroethene	ug/kg	ND	1180	939	79	52-143	
Trichlorofluoromethane	ug/kg	ND	1180	1070	90	30-150	
Vinyl chloride	ug/kg	ND	1180	1010	85	36-127	
1,2-Dichloroethane-d4 (S)	%					95	75-129
4-Bromofluorobenzene (S)	%					101	75-125
Toluene-d8 (S)	%					102	75-125

SAMPLE DUPLICATE: 2493332

Parameter	Units	10375757002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	ND	<22.6		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	<12.0		30	
1,1,2-Trichloroethane	ug/kg	ND	<11.7		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	<39.0		30	
1,1-Dichloroethane	ug/kg	ND	<21.0		30	
1,1-Dichloroethene	ug/kg	ND	<13.8		30	
1,2,4-Trichlorobenzene	ug/kg	ND	<16.7		30	
1,2,4-Trimethylbenzene	ug/kg	ND	<11.9		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	<20.4		30	
1,2-Dichlorobenzene	ug/kg	ND	<10.5		30	
1,2-Dichloroethane	ug/kg	ND	<17.1		30	

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QUALITY CONTROL DATA

Project: UPRR Freeman RI

Pace Project No.: 10375758

SAMPLE DUPLICATE: 2493332

Parameter	Units	10375757002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,3,5-Trimethylbenzene	ug/kg	ND	<12.5		30	
1,3-Dichlorobenzene	ug/kg	ND	<15.9		30	
1,4-Dichlorobenzene	ug/kg	ND	<15.7		30	
2-Butanone (MEK)	ug/kg	ND	<71.5		30	
2-Hexanone	ug/kg	ND	<63.8		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	<35.8		30	
Acetone	ug/kg	ND	<355		30	
Benzene	ug/kg	ND	<4.7		30	
Bromodichloromethane	ug/kg	ND	<15.2		30	
Bromoform	ug/kg	ND	<46.7		30	
Bromomethane	ug/kg	ND	<54.9		30	
Carbon tetrachloride	ug/kg	ND	<17.0		30	
Chlorobenzene	ug/kg	ND	<9.4		30	
Chloroethane	ug/kg	ND	<85.5		30	
Chloroform	ug/kg	ND	<26.3		30	
Chloromethane	ug/kg	ND	<26.2		30	
cis-1,2-Dichloroethene	ug/kg	ND	<20.1		30	
cis-1,3-Dichloropropene	ug/kg	ND	<24.7		30	
Dibromochloromethane	ug/kg	ND	<46.5		30	
Dichlorodifluoromethane	ug/kg	ND	<16.6		30	
Ethylbenzene	ug/kg	ND	<17.2		30	
Hexachloro-1,3-butadiene	ug/kg	ND	<50.9		30	
m&p-Xylene	ug/kg	ND	<27.2		30	
Methyl-tert-butyl ether	ug/kg	ND	<10.1		30	
Methylene Chloride	ug/kg	ND	<100		30	
Naphthalene	ug/kg	ND	<13.1		30	
o-Xylene	ug/kg	ND	<16.1		30	
Styrene	ug/kg	ND	<14.1		30	
Tetrachloroethene	ug/kg	ND	<20.7		30	
Tetrahydrofuran	ug/kg	ND	<269		30	
Toluene	ug/kg	ND	<17.2		30	
trans-1,2-Dichloroethene	ug/kg	ND	<26.1		30	
trans-1,3-Dichloropropene	ug/kg	ND	<18.4		30	
Trichloroethene	ug/kg	ND	<15.5		30	
Trichlorofluoromethane	ug/kg	ND	<54.4		30	
Vinyl chloride	ug/kg	ND	<7.0		30	
1,2-Dichloroethane-d4 (S)	%	93	93	0		
4-Bromofluorobenzene (S)	%	105	103	3		
Toluene-d8 (S)	%	100	99	2		

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QUALITY CONTROL DATA

Project: UPRR Freeman RI
Pace Project No.: 10375758

QC Batch: 455562 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10375758012

METHOD BLANK: 2493288 Matrix: Water
Associated Lab Samples: 10375758012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	01/13/17 14:08	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	01/13/17 14:08	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	01/13/17 14:08	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	01/13/17 14:08	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	01/13/17 14:08	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	01/13/17 14:08	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	01/13/17 14:08	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	01/13/17 14:08	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	01/13/17 14:08	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	01/13/17 14:08	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	01/13/17 14:08	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	01/13/17 14:08	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	01/13/17 14:08	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	01/13/17 14:08	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	01/13/17 14:08	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	01/13/17 14:08	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	01/13/17 14:08	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	01/13/17 14:08	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	01/13/17 14:08	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	01/13/17 14:08	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	01/13/17 14:08	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	01/13/17 14:08	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	01/13/17 14:08	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	01/13/17 14:08	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	01/13/17 14:08	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	01/13/17 14:08	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	01/13/17 14:08	
2-Hexanone	ug/L	<0.19	5.0	0.19	01/13/17 14:08	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	01/13/17 14:08	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	01/13/17 14:08	
Acetone	ug/L	<0.64	20.0	0.64	01/13/17 14:08	
Acrolein	ug/L	<2.1	10.0	2.1	01/13/17 14:08	
Acrylonitrile	ug/L	<0.49	10.0	0.49	01/13/17 14:08	
Benzene	ug/L	<0.042	0.50	0.042	01/13/17 14:08	
Bromobenzene	ug/L	<0.087	0.50	0.087	01/13/17 14:08	
Bromochloromethane	ug/L	<0.082	1.0	0.082	01/13/17 14:08	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	01/13/17 14:08	
Bromoform	ug/L	<0.11	4.0	0.11	01/13/17 14:08	
Bromomethane	ug/L	<0.20	4.0	0.20	01/13/17 14:08	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	01/13/17 14:08	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	01/13/17 14:08	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman RI

Pace Project No.: 10375758

METHOD BLANK: 2493288

Matrix: Water

Associated Lab Samples: 10375758012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	01/13/17 14:08	
Chloroethane	ug/L	<0.12	1.0	0.12	01/13/17 14:08	
Chloroform	ug/L	<0.21	1.0	0.21	01/13/17 14:08	
Chloromethane	ug/L	<0.080	4.0	0.080	01/13/17 14:08	CL
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	01/13/17 14:08	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	01/13/17 14:08	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	01/13/17 14:08	
Dibromomethane	ug/L	<0.14	1.0	0.14	01/13/17 14:08	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	01/13/17 14:08	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	01/13/17 14:08	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	01/13/17 14:08	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	01/13/17 14:08	
Ethylbenzene	ug/L	<0.075	0.50	0.075	01/13/17 14:08	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	01/13/17 14:08	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	01/13/17 14:08	
m&p-Xylene	ug/L	<0.11	1.0	0.11	01/13/17 14:08	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	01/13/17 14:08	
Methylene Chloride	ug/L	<0.097	4.0	0.097	01/13/17 14:08	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	01/13/17 14:08	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	01/13/17 14:08	
Naphthalene	ug/L	<0.064	1.0	0.064	01/13/17 14:08	
o-Xylene	ug/L	<0.044	0.50	0.044	01/13/17 14:08	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	01/13/17 14:08	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	01/13/17 14:08	
Styrene	ug/L	<0.056	0.50	0.056	01/13/17 14:08	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	01/13/17 14:08	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	01/13/17 14:08	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	01/13/17 14:08	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	01/13/17 14:08	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	01/13/17 14:08	
Toluene	ug/L	<0.059	0.50	0.059	01/13/17 14:08	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	01/13/17 14:08	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	01/13/17 14:08	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	01/13/17 14:08	
Trichloroethene	ug/L	<0.044	0.40	0.044	01/13/17 14:08	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	01/13/17 14:08	
Vinyl acetate	ug/L	<0.12	10.0	0.12	01/13/17 14:08	
Vinyl chloride	ug/L	<0.098	0.20	0.098	01/13/17 14:08	
Xylene (Total)	ug/L	<0.15	1.5	0.15	01/13/17 14:08	
1,2-Dichloroethane-d4 (S)	%	97	75-125		01/13/17 14:08	
4-Bromofluorobenzene (S)	%	98	75-125		01/13/17 14:08	
Toluene-d8 (S)	%	98	75-125		01/13/17 14:08	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman RI

Pace Project No.: 10375758

LABORATORY CONTROL SAMPLE & LCSD: 2493289		2493290									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	21.7	21.3	108	106	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	19.4	19.6	97	98	74-125	1	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.4	20.3	102	101	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	21.3	21.0	107	105	75-125	2	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.4	20.5	102	102	75-125	0	30		
1,1-Dichloroethane	ug/L	20	19.4	19.7	97	98	74-125	1	30		
1,1-Dichloroethene	ug/L	20	19.0	19.2	95	96	74-125	1	30		
1,1-Dichloropropene	ug/L	20	21.4	21.5	107	108	74-125	1	30		
1,2,3-Trichlorobenzene	ug/L	20	22.0	21.5	110	108	63-131	2	30		
1,2,3-Trichloropropane	ug/L	20	20.8	20.2	104	101	73-125	3	30		
1,2,4-Trichlorobenzene	ug/L	20	20.8	20.9	104	104	66-126	0	30		
1,2,4-Trimethylbenzene	ug/L	20	20.1	19.5	100	97	74-129	3	30		
1,2-Dibromo-3-chloropropane	ug/L	50	49.7	48.3	99	97	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.5	20.5	102	102	75-125	0	30		
1,2-Dichlorobenzene	ug/L	20	21.3	21.1	106	105	75-125	1	30		
1,2-Dichloroethane	ug/L	20	18.9	19.6	94	98	75-125	4	30		
1,2-Dichloroethene (Total)	ug/L	40	39.8	40.1	99	100	75-125	1	30		
1,2-Dichloropropane	ug/L	20	20.6	20.3	103	102	75-125	1	30		
1,3,5-Trimethylbenzene	ug/L	20	20.4	19.9	102	99	73-127	3	30		
1,3-Dichlorobenzene	ug/L	20	21.4	20.9	107	104	75-125	2	30		
1,3-Dichloropropane	ug/L	20	21.0	20.9	105	105	69-125	0	30		
1,4-Dichlorobenzene	ug/L	20	21.1	20.6	106	103	75-125	2	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	474	510	119	128	70-130	7	30		
2,2,4-Trimethylpentane	ug/L	20	18.9	18.8	95	94	67-138	1	30		
2,2-Dichloropropane	ug/L	20	19.0	18.9	95	95	69-125	0	30		
2-Butanone (MEK)	ug/L	100	87.7	91.1	88	91	48-145	4	30		
2-Chlorotoluene	ug/L	20	19.5	18.9	98	95	74-125	3	30		
2-Hexanone	ug/L	100	92.1	90.0	92	90	63-135	2	30		
4-Chlorotoluene	ug/L	20	20.2	19.7	101	99	73-125	2	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.8	90.3	92	90	53-138	2	30		
Acetone	ug/L	100	106	112	106	112	70-142	5	30		
Acrolein	ug/L	200	192	197	96	98	44-150	2	30		
Acrylonitrile	ug/L	200	186	195	93	97	68-125	5	30		
Benzene	ug/L	20	18.7	19.0	94	95	65-125	2	30		
Bromobenzene	ug/L	20	21.5	21.5	108	108	75-125	0	30		
Bromochloromethane	ug/L	20	21.6	22.8	108	114	75-125	5	30		
Bromodichloromethane	ug/L	20	21.3	21.1	107	105	73-125	1	30		
Bromoform	ug/L	20	17.9	18.1	89	90	69-125	1	30		
Bromomethane	ug/L	20	9.2	11.6	46	58	40-136	23	30	CL	
Carbon disulfide	ug/L	20	19.0	19.0	95	95	36-150	0	30		
Carbon tetrachloride	ug/L	20	20.0	20.4	100	102	70-125	2	30		
Chlorobenzene	ug/L	20	20.9	20.4	105	102	75-125	3	30		
Chloroethane	ug/L	20	21.6	22.1	108	110	67-141	2	30		
Chloroform	ug/L	20	18.7	19.4	94	97	75-125	4	30		
Chloromethane	ug/L	20	11.8	12.0	59	60	50-150	1	30	CL	
cis-1,2-Dichloroethene	ug/L	20	19.7	20.1	99	100	75-125	2	30		
cis-1,3-Dichloropropene	ug/L	20	20.3	19.8	102	99	75-125	2	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: UPRR Freeman RI

Pace Project No.: 10375758

LABORATORY CONTROL SAMPLE & LCSD: 2493289		2493290									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	21.6	20.9	108	105	75-125	3	30		
Dibromomethane	ug/L	20	20.8	20.4	104	102	75-129	2	30		
Dichlorodifluoromethane	ug/L	20	16.4	16.1	82	80	59-135	2	30		
Dichlorofluoromethane	ug/L	20	19.1	19.1	96	96	74-130	0	30		
Diisopropyl ether	ug/L	20	18.5	19.2	93	96	71-125	4	30		
Ethyl-tert-butyl ether	ug/L	20	20.3	21.2	101	106	70-130	5	30		
Ethylbenzene	ug/L	20	19.8	19.4	99	97	75-125	2	30		
Hexachloro-1,3-butadiene	ug/L	20	22.3	22.1	111	110	72-126	1	30		
Isopropylbenzene (Cumene)	ug/L	20	19.7	19.1	99	96	71-136	3	30		
m&p-Xylene	ug/L	40	40.4	39.6	101	99	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.1	19.8	96	99	73-127	4	30		
Methylene Chloride	ug/L	20	20.6	21.2	103	106	68-128	3	30		
n-Butylbenzene	ug/L	20	19.6	19.1	98	96	70-126	3	30		
n-Propylbenzene	ug/L	20	19.6	18.9	98	95	67-131	4	30		
Naphthalene	ug/L	20	20.0	19.9	100	99	52-134	1	30		
o-Xylene	ug/L	20	20.2	19.7	101	99	75-125	2	30		
p-Isopropyltoluene	ug/L	20	19.3	18.9	97	95	74-125	2	30		
sec-Butylbenzene	ug/L	20	20.1	19.6	100	98	69-134	3	30		
Styrene	ug/L	20	20.5	20.2	102	101	75-125	1	30		
tert-Amylmethyl ether	ug/L	20	19.9	20.5	99	103	70-130	3	30		
tert-Butyl Alcohol	ug/L	200	200	214	100	107	66-128	6	30		
tert-Butylbenzene	ug/L	20	20.0	19.6	100	98	71-128	2	30		
Tetrachloroethene	ug/L	20	22.5	21.5	113	108	74-125	5	30		
Tetrahydrofuran	ug/L	200	209	214	104	107	64-142	2	30		
Toluene	ug/L	20	20.2	19.7	101	98	75-125	3	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	20.0	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	21.0	20.5	105	103	75-125	2	30		
trans-1,4-Dichloro-2-butene	ug/L	50	42.3	40.8	85	82	54-133	4	30		
Trichloroethene	ug/L	20	21.9	21.1	110	106	75-125	4	30		
Trichlorofluoromethane	ug/L	20	20.5	20.6	102	103	75-126	0	30		
Vinyl acetate	ug/L	20	20.0	20.9	100	104	67-126	4	30		
Vinyl chloride	ug/L	20	18.0	18.2	90	91	72-125	1	30		
Xylene (Total)	ug/L	60	60.6	59.3	101	99	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				96	98	75-125				
4-Bromofluorobenzene (S)	%				96	97	75-125				
Toluene-d8 (S)	%				100	101	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: UPRR Freeman RI
Pace Project No.: 10375758

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 455562

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1M The sample was analyzed at a dilution due to a large amount of sediment in the vials.

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: UPRR Freeman RI

Pace Project No.: 10375758

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UPRR Freeman RI
Pace Project No.: 10375758

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10375758001	SB34-SS-5	ASTM D2974	455568		
10375758002	SB34-SS-10	ASTM D2974	455568		
10375758003	SB34-SS-15	ASTM D2974	455568		
10375758004	SB34-SS-20	ASTM D2974	455568		
10375758005	SB34-SS-25	ASTM D2974	455568		
10375758006	SB34-SS-30	ASTM D2974	455568		
10375758007	SB34-SS-35	ASTM D2974	455568		
10375758008	SB34-SS-40	ASTM D2974	455568		
10375758009	SB34-SS-50	ASTM D2974	455568		
10375758010	SB34-SS-55	ASTM D2974	455568		
10375758011	SB34-SS-60	ASTM D2974	455568		
10375758013	SSF0-1	ASTM D2974	455568		
10375758014	SB34-SS-65	ASTM D2974	455568		
10375758015	SB34-SS-45	ASTM D2974	455568		
10375758001	SB34-SS-5	EPA 5035/5030B	455572	EPA 8260B	455943
10375758002	SB34-SS-10	EPA 5035/5030B	455572	EPA 8260B	455943
10375758003	SB34-SS-15	EPA 5035/5030B	455572	EPA 8260B	455943
10375758004	SB34-SS-20	EPA 5035/5030B	455572	EPA 8260B	455943
10375758005	SB34-SS-25	EPA 5035/5030B	455572	EPA 8260B	455943
10375758006	SB34-SS-30	EPA 5035/5030B	455572	EPA 8260B	455943
10375758007	SB34-SS-35	EPA 5035/5030B	455572	EPA 8260B	455943
10375758008	SB34-SS-40	EPA 5035/5030B	455572	EPA 8260B	455943
10375758009	SB34-SS-50	EPA 5035/5030B	455572	EPA 8260B	455943
10375758010	SB34-SS-55	EPA 5035/5030B	455572	EPA 8260B	455943
10375758011	SB34-SS-60	EPA 5035/5030B	455572	EPA 8260B	455943
10375758013	SSF0-1	EPA 5035/5030B	455572	EPA 8260B	455943
10375758014	SB34-SS-65	EPA 5035/5030B	455572	EPA 8260B	455943
10375758015	SB34-SS-45	EPA 5035/5030B	455572	EPA 8260B	455943
10375758012	SB34-GW-63	EPA 8260B	455562		

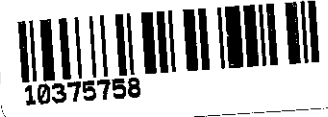
REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill

Project #: WO#: 10375758



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 7021 4575 8882

Optional: Proj. Due Date: _____ Proj. Name: _____

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer 151401163 151401164 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.5 **Cooler Temp Corrected (°C):** 0.4 **Biological Tissue Frozen?** Yes No NA
 Temp should be above freezing to 6°C **Correction Factor:** -0.1 **Date and Initials of Person Examining Contents:** 1/12/17 CW

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No -Includes Date/Time/ID/Analysis Matrix: <u>SL & WT</u>	12. extra sample SB 24-SS-45 taken 1-9-17 @ 1540
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: (VOA) Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VDA pH is checked after analysis	Sample # Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: Brad @ CH2M Date/Time: 01/13/17

Comments/Resolution: Proceed with 8260 analysis on additional sample received for

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	SB34-SS-45 (01/09/17 @ 15:40)
Opened Time: 2:15 Temp: 0.5 Corrected Temp: 0.4	
Time: 1:00 put in cooler	
Time: _____ Temp: _____ Corrected Temp: _____	

Project Manager Review: JENNI GRASS Date: 01/13/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

January 26, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

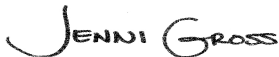
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 13, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10375909001	SB36-SS-5	Solid	01/11/17 09:05	01/13/17 10:15
10375909002	SB36-SS-10	Solid	01/11/17 09:20	01/13/17 10:15
10375909003	SB36-SS-15	Solid	01/11/17 09:30	01/13/17 10:15
10375909004	SB36-SS-20	Solid	01/11/17 09:40	01/13/17 10:15
10375909005	SB36-SS-25	Solid	01/11/17 09:50	01/13/17 10:15
10375909006	SB36-SS-30	Solid	01/11/17 10:10	01/13/17 10:15
10375909007	SB36-SS-35	Solid	01/11/17 10:20	01/13/17 10:15
10375909008	SB36-SS-40	Solid	01/11/17 10:40	01/13/17 10:15
10375909009	SB36-SS-45	Solid	01/11/17 10:50	01/13/17 10:15
10375909010	SB36-SS-50	Solid	01/11/17 11:00	01/13/17 10:15
10375909011	SSFD-2	Solid	01/11/17 08:55	01/13/17 10:15
10375909012	SB37-SS-5	Solid	01/11/17 14:50	01/13/17 10:15
10375909013	SSFD-3	Solid	01/11/17 14:30	01/13/17 10:15
10375909014	SB37-SS-10	Solid	01/11/17 15:00	01/13/17 10:15
10375909015	SB37-SS-15	Solid	01/11/17 15:10	01/13/17 10:15
10375909016	SB37-SS-20	Solid	01/11/17 15:20	01/13/17 10:15
10375909017	SB37-SS-25	Solid	01/11/17 15:30	01/13/17 10:15
10375909018	SB37-SS-30	Solid	01/11/17 15:40	01/13/17 10:15
10375909019	SB37-SS-35	Solid	01/11/17 15:50	01/13/17 10:15
10375909020	SB37-SS-40	Solid	01/12/17 08:50	01/13/17 10:15
10375909021	SB37-SS-45	Solid	01/12/17 09:00	01/13/17 10:15
10375909022	SB37-SS-50	Solid	01/12/17 09:10	01/13/17 10:15
10375909023	SB37-SS-55	Solid	01/12/17 09:20	01/13/17 10:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10375909001	SB36-SS-5	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909002	SB36-SS-10	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909003	SB36-SS-15	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909004	SB36-SS-20	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909005	SB36-SS-25	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909006	SB36-SS-30	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909007	SB36-SS-35	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909008	SB36-SS-40	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909009	SB36-SS-45	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909010	SB36-SS-50	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909011	SSFD-2	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909012	SB37-SS-5	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909013	SSFD-3	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909014	SB37-SS-10	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909015	SB37-SS-15	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909016	SB37-SS-20	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909017	SB37-SS-25	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909018	SB37-SS-30	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10375909019	SB37-SS-35	ASTM D2974	JDL	1	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10375909020	SB37-SS-40	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10375909021	SB37-SS-45	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10375909022	SB37-SS-50	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10375909023	SB37-SS-55	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10375909001	SB36-SS-5					
ASTM D2974	Percent Moisture	18.0	%	0.10	01/13/17 16:46	
10375909002	SB36-SS-10					
ASTM D2974	Percent Moisture	18.9	%	0.10	01/13/17 16:47	
10375909003	SB36-SS-15					
ASTM D2974	Percent Moisture	23.2	%	0.10	01/13/17 16:47	
10375909004	SB36-SS-20					
ASTM D2974	Percent Moisture	19.0	%	0.10	01/13/17 16:47	
10375909005	SB36-SS-25					
ASTM D2974	Percent Moisture	10.3	%	0.10	01/13/17 16:47	
10375909006	SB36-SS-30					
ASTM D2974	Percent Moisture	27.8	%	0.10	01/13/17 16:47	
10375909007	SB36-SS-35					
ASTM D2974	Percent Moisture	26.5	%	0.10	01/13/17 16:48	
10375909008	SB36-SS-40					
ASTM D2974	Percent Moisture	25.7	%	0.10	01/13/17 16:48	
EPA 8260B	Toluene	39.5J	ug/kg	65.7	01/19/17 10:35	
10375909009	SB36-SS-45					
ASTM D2974	Percent Moisture	27.0	%	0.10	01/13/17 16:49	
10375909010	SB36-SS-50					
ASTM D2974	Percent Moisture	18.6	%	0.10	01/13/17 16:49	
10375909011	SSFD-2					
ASTM D2974	Percent Moisture	28.0	%	0.10	01/13/17 16:49	
EPA 8260B	Toluene	34.8J	ug/kg	64.9	01/19/17 10:51	
10375909012	SB37-SS-5					
ASTM D2974	Percent Moisture	16.7	%	0.10	01/13/17 16:49	
10375909013	SSFD-3					
ASTM D2974	Percent Moisture	24.4	%	0.10	01/13/17 16:50	
EPA 8260B	1,2,4-Trimethylbenzene	34.3J	ug/kg	68.8	01/18/17 19:48	
EPA 8260B	Naphthalene	87.0J	ug/kg	275	01/18/17 19:48	
10375909014	SB37-SS-10					
ASTM D2974	Percent Moisture	15.4	%	0.10	01/13/17 16:50	
10375909015	SB37-SS-15					
ASTM D2974	Percent Moisture	14.7	%	0.10	01/13/17 16:50	
10375909016	SB37-SS-20					
ASTM D2974	Percent Moisture	16.8	%	0.10	01/13/17 16:50	
10375909017	SB37-SS-25					
ASTM D2974	Percent Moisture	11.8	%	0.10	01/13/17 16:51	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10375909018	SB37-SS-30					
ASTM D2974	Percent Moisture	23.8	%	0.10	01/13/17 16:51	
EPA 8260B	Naphthalene	33.1J	ug/kg	278	01/18/17 20:04	
10375909019	SB37-SS-35					
ASTM D2974	Percent Moisture	24.1	%	0.10	01/13/17 16:51	
10375909020	SB37-SS-40					
ASTM D2974	Percent Moisture	27.9	%	0.10	01/13/17 16:51	
10375909021	SB37-SS-45					
ASTM D2974	Percent Moisture	32.7	%	0.10	01/13/17 17:37	
10375909022	SB37-SS-50					
ASTM D2974	Percent Moisture	33.8	%	0.10	01/13/17 17:38	
10375909023	SB37-SS-55					
ASTM D2974	Percent Moisture	35.6	%	0.10	01/13/17 17:38	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Method: EPA 8260B

Description: 8260B MSV 5030 Med Level

Client: UPRR_CH2M Hill

Date: January 26, 2017

General Information:

23 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 455929

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2495803)
 - Chloroethane
 - Trichlorofluoromethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 455929

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10376141001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2496603)
 - Dichlorodifluoromethane

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Method: EPA 8260B

Description: 8260B MSV 5030 Med Level

Client: UPRR_CH2M Hill

Date: January 26, 2017

QC Batch: 455972

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10375909007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2496041)
- Dichlorodifluoromethane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-5 **Lab ID: 10375909001** Collected: 01/11/17 09:05 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	18.0	%	0.10	0.10	1		01/13/17 16:46		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<24.9	ug/kg	59.7	24.9	1	01/17/17 16:50	01/20/17 21:27	71-55-6	
1,1,2,2-Tetrachloroethane	<13.2	ug/kg	59.7	13.2	1	01/17/17 16:50	01/20/17 21:27	79-34-5	
1,1,2-Trichloroethane	<12.9	ug/kg	59.7	12.9	1	01/17/17 16:50	01/20/17 21:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	<43.0	ug/kg	239	43.0	1	01/17/17 16:50	01/20/17 21:27	76-13-1	
1,1-Dichloroethane	<23.2	ug/kg	59.7	23.2	1	01/17/17 16:50	01/20/17 21:27	75-34-3	
1,1-Dichloroethene	<15.2	ug/kg	59.7	15.2	1	01/17/17 16:50	01/20/17 21:27	75-35-4	
1,2,4-Trichlorobenzene	<18.4	ug/kg	59.7	18.4	1	01/17/17 16:50	01/20/17 21:27	120-82-1	
1,2,4-Trimethylbenzene	<13.1	ug/kg	59.7	13.1	1	01/17/17 16:50	01/20/17 21:27	95-63-6	
1,2-Dibromoethane (EDB)	<22.4	ug/kg	59.7	22.4	1	01/17/17 16:50	01/20/17 21:27	106-93-4	
1,2-Dichlorobenzene	<11.5	ug/kg	59.7	11.5	1	01/17/17 16:50	01/20/17 21:27	95-50-1	
1,2-Dichloroethane	<18.9	ug/kg	59.7	18.9	1	01/17/17 16:50	01/20/17 21:27	107-06-2	
1,3,5-Trimethylbenzene	<13.7	ug/kg	59.7	13.7	1	01/17/17 16:50	01/20/17 21:27	108-67-8	
1,3-Dichlorobenzene	<11.5	ug/kg	59.7	11.5	1	01/17/17 16:50	01/20/17 21:27	541-73-1	
1,4-Dichlorobenzene	<17.3	ug/kg	59.7	17.3	1	01/17/17 16:50	01/20/17 21:27	106-46-7	
2-Butanone (MEK)	<78.8	ug/kg	298	78.8	1	01/17/17 16:50	01/20/17 21:27	78-93-3	
2-Hexanone	<70.3	ug/kg	298	70.3	1	01/17/17 16:50	01/20/17 21:27	591-78-6	
4-Methyl-2-pentanone (MIBK)	<39.5	ug/kg	298	39.5	1	01/17/17 16:50	01/20/17 21:27	108-10-1	
Acetone	<391	ug/kg	1190	391	1	01/17/17 16:50	01/20/17 21:27	67-64-1	
Benzene	<5.2	ug/kg	23.9	5.2	1	01/17/17 16:50	01/20/17 21:27	71-43-2	
Bromodichloromethane	<16.7	ug/kg	59.7	16.7	1	01/17/17 16:50	01/20/17 21:27	75-27-4	
Bromoform	<51.4	ug/kg	239	51.4	1	01/17/17 16:50	01/20/17 21:27	75-25-2	
Bromomethane	<60.5	ug/kg	597	60.5	1	01/17/17 16:50	01/20/17 21:27	74-83-9	
Carbon tetrachloride	<18.7	ug/kg	59.7	18.7	1	01/17/17 16:50	01/20/17 21:27	56-23-5	
Chlorobenzene	<10.4	ug/kg	59.7	10.4	1	01/17/17 16:50	01/20/17 21:27	108-90-7	
Chloroethane	<94.3	ug/kg	597	94.3	1	01/17/17 16:50	01/20/17 21:27	75-00-3	
Chloroform	<29.0	ug/kg	59.7	29.0	1	01/17/17 16:50	01/20/17 21:27	67-66-3	
Chloromethane	<28.9	ug/kg	239	28.9	1	01/17/17 16:50	01/20/17 21:27	74-87-3	
Dibromochloromethane	<51.2	ug/kg	239	51.2	1	01/17/17 16:50	01/20/17 21:27	124-48-1	
Dichlorodifluoromethane	<18.3	ug/kg	239	18.3	1	01/17/17 16:50	01/20/17 21:27	75-71-8	
Ethylbenzene	<19.0	ug/kg	59.7	19.0	1	01/17/17 16:50	01/20/17 21:27	100-41-4	
Hexachloro-1,3-butadiene	<56.1	ug/kg	298	56.1	1	01/17/17 16:50	01/20/17 21:27	87-68-3	
Methyl-tert-butyl ether	<11.2	ug/kg	59.7	11.2	1	01/17/17 16:50	01/20/17 21:27	1634-04-4	
Methylene Chloride	<111	ug/kg	239	111	1	01/17/17 16:50	01/20/17 21:27	75-09-2	
Naphthalene	<14.4	ug/kg	239	14.4	1	01/17/17 16:50	01/20/17 21:27	91-20-3	
Styrene	<15.5	ug/kg	59.7	15.5	1	01/17/17 16:50	01/20/17 21:27	100-42-5	
Tetrachloroethene	<22.8	ug/kg	59.7	22.8	1	01/17/17 16:50	01/20/17 21:27	127-18-4	
Tetrahydrofuran	<296	ug/kg	2390	296	1	01/17/17 16:50	01/20/17 21:27	109-99-9	
Toluene	<19.0	ug/kg	59.7	19.0	1	01/17/17 16:50	01/20/17 21:27	108-88-3	
Trichloroethene	<17.1	ug/kg	59.7	17.1	1	01/17/17 16:50	01/20/17 21:27	79-01-6	
Trichlorofluoromethane	<59.9	ug/kg	239	59.9	1	01/17/17 16:50	01/20/17 21:27	75-69-4	
Vinyl acetate	<63.1	ug/kg	597	63.1	1	01/17/17 16:50	01/20/17 21:27	108-05-4	
Vinyl chloride	<7.7	ug/kg	23.9	7.7	1	01/17/17 16:50	01/20/17 21:27	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-5 **Lab ID: 10375909001** Collected: 01/11/17 09:05 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.2	ug/kg	59.7	22.2	1	01/17/17 16:50	01/20/17 21:27	156-59-2	
cis-1,3-Dichloropropene	<27.2	ug/kg	59.7	27.2	1	01/17/17 16:50	01/20/17 21:27	10061-01-5	
m&p-Xylene	<30.0	ug/kg	119	30.0	1	01/17/17 16:50	01/20/17 21:27	179601-23-1	
o-Xylene	<17.8	ug/kg	59.7	17.8	1	01/17/17 16:50	01/20/17 21:27	95-47-6	
trans-1,2-Dichloroethene	<28.8	ug/kg	59.7	28.8	1	01/17/17 16:50	01/20/17 21:27	156-60-5	
trans-1,3-Dichloropropene	<20.3	ug/kg	239	20.3	1	01/17/17 16:50	01/20/17 21:27	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%	75-129		1	01/17/17 16:50	01/20/17 21:27	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1	01/17/17 16:50	01/20/17 21:27	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/17/17 16:50	01/20/17 21:27	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-10 **Lab ID: 10375909002** Collected: 01/11/17 09:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	18.9	%	0.10	0.10	1		01/13/17 16:47		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.7	ug/kg	61.6	25.7	1	01/17/17 16:50	01/18/17 01:38	71-55-6	
1,1,2,2-Tetrachloroethane	<13.7	ug/kg	61.6	13.7	1	01/17/17 16:50	01/18/17 01:38	79-34-5	
1,1,2-Trichloroethane	<13.3	ug/kg	61.6	13.3	1	01/17/17 16:50	01/18/17 01:38	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.3	ug/kg	246	44.3	1	01/17/17 16:50	01/18/17 01:38	76-13-1	
1,1-Dichloroethane	<23.9	ug/kg	61.6	23.9	1	01/17/17 16:50	01/18/17 01:38	75-34-3	
1,1-Dichloroethene	<15.6	ug/kg	61.6	15.6	1	01/17/17 16:50	01/18/17 01:38	75-35-4	
1,2,4-Trichlorobenzene	<19.0	ug/kg	61.6	19.0	1	01/17/17 16:50	01/18/17 01:38	120-82-1	
1,2,4-Trimethylbenzene	<13.5	ug/kg	61.6	13.5	1	01/17/17 16:50	01/18/17 01:38	95-63-6	
1,2-Dibromoethane (EDB)	<23.1	ug/kg	61.6	23.1	1	01/17/17 16:50	01/18/17 01:38	106-93-4	
1,2-Dichlorobenzene	<11.9	ug/kg	61.6	11.9	1	01/17/17 16:50	01/18/17 01:38	95-50-1	
1,2-Dichloroethane	<19.5	ug/kg	61.6	19.5	1	01/17/17 16:50	01/18/17 01:38	107-06-2	
1,3,5-Trimethylbenzene	<14.2	ug/kg	61.6	14.2	1	01/17/17 16:50	01/18/17 01:38	108-67-8	
1,3-Dichlorobenzene	<11.9	ug/kg	61.6	11.9	1	01/17/17 16:50	01/18/17 01:38	541-73-1	
1,4-Dichlorobenzene	<17.9	ug/kg	61.6	17.9	1	01/17/17 16:50	01/18/17 01:38	106-46-7	
2-Butanone (MEK)	<81.3	ug/kg	308	81.3	1	01/17/17 16:50	01/18/17 01:38	78-93-3	
2-Hexanone	<72.5	ug/kg	308	72.5	1	01/17/17 16:50	01/18/17 01:38	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.8	ug/kg	308	40.8	1	01/17/17 16:50	01/18/17 01:38	108-10-1	
Acetone	<404	ug/kg	1230	404	1	01/17/17 16:50	01/18/17 01:38	67-64-1	
Benzene	<5.3	ug/kg	24.6	5.3	1	01/17/17 16:50	01/18/17 01:38	71-43-2	
Bromodichloromethane	<17.2	ug/kg	61.6	17.2	1	01/17/17 16:50	01/18/17 01:38	75-27-4	
Bromoform	<53.1	ug/kg	246	53.1	1	01/17/17 16:50	01/18/17 01:38	75-25-2	
Bromomethane	<62.4	ug/kg	616	62.4	1	01/17/17 16:50	01/18/17 01:38	74-83-9	
Carbon tetrachloride	<19.3	ug/kg	61.6	19.3	1	01/17/17 16:50	01/18/17 01:38	56-23-5	
Chlorobenzene	<10.7	ug/kg	61.6	10.7	1	01/17/17 16:50	01/18/17 01:38	108-90-7	
Chloroethane	<97.3	ug/kg	616	97.3	1	01/17/17 16:50	01/18/17 01:38	75-00-3	
Chloroform	<29.9	ug/kg	61.6	29.9	1	01/17/17 16:50	01/18/17 01:38	67-66-3	
Chloromethane	<29.8	ug/kg	246	29.8	1	01/17/17 16:50	01/18/17 01:38	74-87-3	
Dibromochloromethane	<52.8	ug/kg	246	52.8	1	01/17/17 16:50	01/18/17 01:38	124-48-1	
Dichlorodifluoromethane	<18.8	ug/kg	246	18.8	1	01/17/17 16:50	01/18/17 01:38	75-71-8	
Ethylbenzene	<19.6	ug/kg	61.6	19.6	1	01/17/17 16:50	01/18/17 01:38	100-41-4	
Hexachloro-1,3-butadiene	<57.9	ug/kg	308	57.9	1	01/17/17 16:50	01/18/17 01:38	87-68-3	
Methyl-tert-butyl ether	<11.5	ug/kg	61.6	11.5	1	01/17/17 16:50	01/18/17 01:38	1634-04-4	
Methylene Chloride	<114	ug/kg	246	114	1	01/17/17 16:50	01/18/17 01:38	75-09-2	
Naphthalene	<14.9	ug/kg	246	14.9	1	01/17/17 16:50	01/18/17 01:38	91-20-3	
Styrene	<16.0	ug/kg	61.6	16.0	1	01/17/17 16:50	01/18/17 01:38	100-42-5	
Tetrachloroethene	<23.5	ug/kg	61.6	23.5	1	01/17/17 16:50	01/18/17 01:38	127-18-4	
Tetrahydrofuran	<305	ug/kg	2460	305	1	01/17/17 16:50	01/18/17 01:38	109-99-9	
Toluene	<19.6	ug/kg	61.6	19.6	1	01/17/17 16:50	01/18/17 01:38	108-88-3	
Trichloroethene	<17.6	ug/kg	61.6	17.6	1	01/17/17 16:50	01/18/17 01:38	79-01-6	
Trichlorofluoromethane	<61.8	ug/kg	246	61.8	1	01/17/17 16:50	01/18/17 01:38	75-69-4	
Vinyl acetate	<65.1	ug/kg	616	65.1	1	01/17/17 16:50	01/18/17 01:38	108-05-4	
Vinyl chloride	<7.9	ug/kg	24.6	7.9	1	01/17/17 16:50	01/18/17 01:38	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-10 **Lab ID: 10375909002** Collected: 01/11/17 09:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.9	ug/kg	61.6	22.9	1	01/17/17 16:50	01/18/17 01:38	156-59-2	
cis-1,3-Dichloropropene	<28.1	ug/kg	61.6	28.1	1	01/17/17 16:50	01/18/17 01:38	10061-01-5	
m&p-Xylene	<30.9	ug/kg	123	30.9	1	01/17/17 16:50	01/18/17 01:38	179601-23-1	
o-Xylene	<18.3	ug/kg	61.6	18.3	1	01/17/17 16:50	01/18/17 01:38	95-47-6	
trans-1,2-Dichloroethene	<29.7	ug/kg	61.6	29.7	1	01/17/17 16:50	01/18/17 01:38	156-60-5	
trans-1,3-Dichloropropene	<20.9	ug/kg	246	20.9	1	01/17/17 16:50	01/18/17 01:38	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/17/17 16:50	01/18/17 01:38	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/17/17 16:50	01/18/17 01:38	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/17/17 16:50	01/18/17 01:38	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-15 **Lab ID: 10375909003** Collected: 01/11/17 09:30 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	23.2	%	0.10	0.10	1		01/13/17 16:47		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<28.9	ug/kg	69.0	28.9	1	01/17/17 16:50	01/18/17 01:54	71-55-6	
1,1,2,2-Tetrachloroethane	<15.3	ug/kg	69.0	15.3	1	01/17/17 16:50	01/18/17 01:54	79-34-5	
1,1,2-Trichloroethane	<14.9	ug/kg	69.0	14.9	1	01/17/17 16:50	01/18/17 01:54	79-00-5	
1,1,2-Trichlorotrifluoroethane	<49.7	ug/kg	276	49.7	1	01/17/17 16:50	01/18/17 01:54	76-13-1	
1,1-Dichloroethane	<26.8	ug/kg	69.0	26.8	1	01/17/17 16:50	01/18/17 01:54	75-34-3	
1,1-Dichloroethene	<17.5	ug/kg	69.0	17.5	1	01/17/17 16:50	01/18/17 01:54	75-35-4	
1,2,4-Trichlorobenzene	<21.3	ug/kg	69.0	21.3	1	01/17/17 16:50	01/18/17 01:54	120-82-1	
1,2,4-Trimethylbenzene	<15.2	ug/kg	69.0	15.2	1	01/17/17 16:50	01/18/17 01:54	95-63-6	
1,2-Dibromoethane (EDB)	<26.0	ug/kg	69.0	26.0	1	01/17/17 16:50	01/18/17 01:54	106-93-4	
1,2-Dichlorobenzene	<13.3	ug/kg	69.0	13.3	1	01/17/17 16:50	01/18/17 01:54	95-50-1	
1,2-Dichloroethane	<21.8	ug/kg	69.0	21.8	1	01/17/17 16:50	01/18/17 01:54	107-06-2	
1,3,5-Trimethylbenzene	<15.9	ug/kg	69.0	15.9	1	01/17/17 16:50	01/18/17 01:54	108-67-8	
1,3-Dichlorobenzene	<13.3	ug/kg	69.0	13.3	1	01/17/17 16:50	01/18/17 01:54	541-73-1	
1,4-Dichlorobenzene	<20.0	ug/kg	69.0	20.0	1	01/17/17 16:50	01/18/17 01:54	106-46-7	
2-Butanone (MEK)	<91.1	ug/kg	345	91.1	1	01/17/17 16:50	01/18/17 01:54	78-93-3	
2-Hexanone	<81.3	ug/kg	345	81.3	1	01/17/17 16:50	01/18/17 01:54	591-78-6	
4-Methyl-2-pentanone (MIBK)	<45.7	ug/kg	345	45.7	1	01/17/17 16:50	01/18/17 01:54	108-10-1	
Acetone	<453	ug/kg	1380	453	1	01/17/17 16:50	01/18/17 01:54	67-64-1	
Benzene	<6.0	ug/kg	27.6	6.0	1	01/17/17 16:50	01/18/17 01:54	71-43-2	
Bromodichloromethane	<19.3	ug/kg	69.0	19.3	1	01/17/17 16:50	01/18/17 01:54	75-27-4	
Bromoform	<59.5	ug/kg	276	59.5	1	01/17/17 16:50	01/18/17 01:54	75-25-2	
Bromomethane	<70.0	ug/kg	690	70.0	1	01/17/17 16:50	01/18/17 01:54	74-83-9	
Carbon tetrachloride	<21.7	ug/kg	69.0	21.7	1	01/17/17 16:50	01/18/17 01:54	56-23-5	
Chlorobenzene	<12.0	ug/kg	69.0	12.0	1	01/17/17 16:50	01/18/17 01:54	108-90-7	
Chloroethane	<109	ug/kg	690	109	1	01/17/17 16:50	01/18/17 01:54	75-00-3	
Chloroform	<33.6	ug/kg	69.0	33.6	1	01/17/17 16:50	01/18/17 01:54	67-66-3	
Chloromethane	<33.4	ug/kg	276	33.4	1	01/17/17 16:50	01/18/17 01:54	74-87-3	
Dibromochloromethane	<59.2	ug/kg	276	59.2	1	01/17/17 16:50	01/18/17 01:54	124-48-1	
Dichlorodifluoromethane	<21.1	ug/kg	276	21.1	1	01/17/17 16:50	01/18/17 01:54	75-71-8	
Ethylbenzene	<22.0	ug/kg	69.0	22.0	1	01/17/17 16:50	01/18/17 01:54	100-41-4	
Hexachloro-1,3-butadiene	<64.9	ug/kg	345	64.9	1	01/17/17 16:50	01/18/17 01:54	87-68-3	
Methyl-tert-butyl ether	<12.9	ug/kg	69.0	12.9	1	01/17/17 16:50	01/18/17 01:54	1634-04-4	
Methylene Chloride	<128	ug/kg	276	128	1	01/17/17 16:50	01/18/17 01:54	75-09-2	
Naphthalene	<16.7	ug/kg	276	16.7	1	01/17/17 16:50	01/18/17 01:54	91-20-3	
Styrene	<18.0	ug/kg	69.0	18.0	1	01/17/17 16:50	01/18/17 01:54	100-42-5	
Tetrachloroethene	<26.4	ug/kg	69.0	26.4	1	01/17/17 16:50	01/18/17 01:54	127-18-4	
Tetrahydrofuran	<342	ug/kg	2760	342	1	01/17/17 16:50	01/18/17 01:54	109-99-9	
Toluene	<22.0	ug/kg	69.0	22.0	1	01/17/17 16:50	01/18/17 01:54	108-88-3	
Trichloroethene	<19.7	ug/kg	69.0	19.7	1	01/17/17 16:50	01/18/17 01:54	79-01-6	
Trichlorofluoromethane	<69.3	ug/kg	276	69.3	1	01/17/17 16:50	01/18/17 01:54	75-69-4	
Vinyl acetate	<73.0	ug/kg	690	73.0	1	01/17/17 16:50	01/18/17 01:54	108-05-4	
Vinyl chloride	<8.9	ug/kg	27.6	8.9	1	01/17/17 16:50	01/18/17 01:54	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-15 **Lab ID: 10375909003** Collected: 01/11/17 09:30 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.7	ug/kg	69.0	25.7	1	01/17/17 16:50	01/18/17 01:54	156-59-2	
cis-1,3-Dichloropropene	<31.5	ug/kg	69.0	31.5	1	01/17/17 16:50	01/18/17 01:54	10061-01-5	
m&p-Xylene	<34.7	ug/kg	138	34.7	1	01/17/17 16:50	01/18/17 01:54	179601-23-1	
o-Xylene	<20.6	ug/kg	69.0	20.6	1	01/17/17 16:50	01/18/17 01:54	95-47-6	
trans-1,2-Dichloroethene	<33.3	ug/kg	69.0	33.3	1	01/17/17 16:50	01/18/17 01:54	156-60-5	
trans-1,3-Dichloropropene	<23.5	ug/kg	276	23.5	1	01/17/17 16:50	01/18/17 01:54	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/17/17 16:50	01/18/17 01:54	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/17/17 16:50	01/18/17 01:54	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	01/17/17 16:50	01/18/17 01:54	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-20 **Lab ID: 10375909004** Collected: 01/11/17 09:40 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	19.0	%	0.10	0.10	1		01/13/17 16:47		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<24.3	ug/kg	58.1	24.3	1	01/17/17 16:50	01/18/17 02:10	71-55-6	
1,1,2,2-Tetrachloroethane	<12.9	ug/kg	58.1	12.9	1	01/17/17 16:50	01/18/17 02:10	79-34-5	
1,1,2-Trichloroethane	<12.6	ug/kg	58.1	12.6	1	01/17/17 16:50	01/18/17 02:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<41.9	ug/kg	233	41.9	1	01/17/17 16:50	01/18/17 02:10	76-13-1	
1,1-Dichloroethane	<22.6	ug/kg	58.1	22.6	1	01/17/17 16:50	01/18/17 02:10	75-34-3	
1,1-Dichloroethene	<14.8	ug/kg	58.1	14.8	1	01/17/17 16:50	01/18/17 02:10	75-35-4	
1,2,4-Trichlorobenzene	<17.9	ug/kg	58.1	17.9	1	01/17/17 16:50	01/18/17 02:10	120-82-1	
1,2,4-Trimethylbenzene	<12.8	ug/kg	58.1	12.8	1	01/17/17 16:50	01/18/17 02:10	95-63-6	
1,2-Dibromoethane (EDB)	<21.9	ug/kg	58.1	21.9	1	01/17/17 16:50	01/18/17 02:10	106-93-4	
1,2-Dichlorobenzene	<11.2	ug/kg	58.1	11.2	1	01/17/17 16:50	01/18/17 02:10	95-50-1	
1,2-Dichloroethane	<18.4	ug/kg	58.1	18.4	1	01/17/17 16:50	01/18/17 02:10	107-06-2	
1,3,5-Trimethylbenzene	<13.4	ug/kg	58.1	13.4	1	01/17/17 16:50	01/18/17 02:10	108-67-8	
1,3-Dichlorobenzene	<11.2	ug/kg	58.1	11.2	1	01/17/17 16:50	01/18/17 02:10	541-73-1	
1,4-Dichlorobenzene	<16.9	ug/kg	58.1	16.9	1	01/17/17 16:50	01/18/17 02:10	106-46-7	
2-Butanone (MEK)	<76.8	ug/kg	291	76.8	1	01/17/17 16:50	01/18/17 02:10	78-93-3	
2-Hexanone	<68.5	ug/kg	291	68.5	1	01/17/17 16:50	01/18/17 02:10	591-78-6	
4-Methyl-2-pentanone (MIBK)	<38.5	ug/kg	291	38.5	1	01/17/17 16:50	01/18/17 02:10	108-10-1	
Acetone	<381	ug/kg	1160	381	1	01/17/17 16:50	01/18/17 02:10	67-64-1	
Benzene	<5.0	ug/kg	23.3	5.0	1	01/17/17 16:50	01/18/17 02:10	71-43-2	
Bromodichloromethane	<16.3	ug/kg	58.1	16.3	1	01/17/17 16:50	01/18/17 02:10	75-27-4	
Bromoform	<50.1	ug/kg	233	50.1	1	01/17/17 16:50	01/18/17 02:10	75-25-2	
Bromomethane	<59.0	ug/kg	581	59.0	1	01/17/17 16:50	01/18/17 02:10	74-83-9	
Carbon tetrachloride	<18.3	ug/kg	58.1	18.3	1	01/17/17 16:50	01/18/17 02:10	56-23-5	
Chlorobenzene	<10.1	ug/kg	58.1	10.1	1	01/17/17 16:50	01/18/17 02:10	108-90-7	
Chloroethane	<91.9	ug/kg	581	91.9	1	01/17/17 16:50	01/18/17 02:10	75-00-3	
Chloroform	<28.3	ug/kg	58.1	28.3	1	01/17/17 16:50	01/18/17 02:10	67-66-3	
Chloromethane	<28.1	ug/kg	233	28.1	1	01/17/17 16:50	01/18/17 02:10	74-87-3	
Dibromochloromethane	<49.9	ug/kg	233	49.9	1	01/17/17 16:50	01/18/17 02:10	124-48-1	
Dichlorodifluoromethane	<17.8	ug/kg	233	17.8	1	01/17/17 16:50	01/18/17 02:10	75-71-8	
Ethylbenzene	<18.5	ug/kg	58.1	18.5	1	01/17/17 16:50	01/18/17 02:10	100-41-4	
Hexachloro-1,3-butadiene	<54.7	ug/kg	291	54.7	1	01/17/17 16:50	01/18/17 02:10	87-68-3	
Methyl-tert-butyl ether	<10.9	ug/kg	58.1	10.9	1	01/17/17 16:50	01/18/17 02:10	1634-04-4	
Methylene Chloride	<108	ug/kg	233	108	1	01/17/17 16:50	01/18/17 02:10	75-09-2	
Naphthalene	<14.1	ug/kg	233	14.1	1	01/17/17 16:50	01/18/17 02:10	91-20-3	
Styrene	<15.1	ug/kg	58.1	15.1	1	01/17/17 16:50	01/18/17 02:10	100-42-5	
Tetrachloroethene	<22.2	ug/kg	58.1	22.2	1	01/17/17 16:50	01/18/17 02:10	127-18-4	
Tetrahydrofuran	<288	ug/kg	2330	288	1	01/17/17 16:50	01/18/17 02:10	109-99-9	
Toluene	<18.5	ug/kg	58.1	18.5	1	01/17/17 16:50	01/18/17 02:10	108-88-3	
Trichloroethene	<16.6	ug/kg	58.1	16.6	1	01/17/17 16:50	01/18/17 02:10	79-01-6	
Trichlorofluoromethane	<58.4	ug/kg	233	58.4	1	01/17/17 16:50	01/18/17 02:10	75-69-4	
Vinyl acetate	<61.5	ug/kg	581	61.5	1	01/17/17 16:50	01/18/17 02:10	108-05-4	
Vinyl chloride	<7.5	ug/kg	23.3	7.5	1	01/17/17 16:50	01/18/17 02:10	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-20 **Lab ID: 10375909004** Collected: 01/11/17 09:40 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<21.6	ug/kg	58.1	21.6	1	01/17/17 16:50	01/18/17 02:10	156-59-2	
cis-1,3-Dichloropropene	<26.5	ug/kg	58.1	26.5	1	01/17/17 16:50	01/18/17 02:10	10061-01-5	
m&p-Xylene	<29.2	ug/kg	116	29.2	1	01/17/17 16:50	01/18/17 02:10	179601-23-1	
o-Xylene	<17.3	ug/kg	58.1	17.3	1	01/17/17 16:50	01/18/17 02:10	95-47-6	
trans-1,2-Dichloroethene	<28.0	ug/kg	58.1	28.0	1	01/17/17 16:50	01/18/17 02:10	156-60-5	
trans-1,3-Dichloropropene	<19.8	ug/kg	233	19.8	1	01/17/17 16:50	01/18/17 02:10	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/17/17 16:50	01/18/17 02:10	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1	01/17/17 16:50	01/18/17 02:10	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	01/17/17 16:50	01/18/17 02:10	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-25 **Lab ID: 10375909005** Collected: 01/11/17 09:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	10.3	%	0.10	0.10	1		01/13/17 16:47		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.5	ug/kg	56.1	23.5	1	01/17/17 16:50	01/18/17 03:31	71-55-6	
1,1,2,2-Tetrachloroethane	<12.5	ug/kg	56.1	12.5	1	01/17/17 16:50	01/18/17 03:31	79-34-5	
1,1,2-Trichloroethane	<12.1	ug/kg	56.1	12.1	1	01/17/17 16:50	01/18/17 03:31	79-00-5	
1,1,2-Trichlorotrifluoroethane	<40.4	ug/kg	225	40.4	1	01/17/17 16:50	01/18/17 03:31	76-13-1	
1,1-Dichloroethane	<21.8	ug/kg	56.1	21.8	1	01/17/17 16:50	01/18/17 03:31	75-34-3	
1,1-Dichloroethene	<14.3	ug/kg	56.1	14.3	1	01/17/17 16:50	01/18/17 03:31	75-35-4	
1,2,4-Trichlorobenzene	<17.3	ug/kg	56.1	17.3	1	01/17/17 16:50	01/18/17 03:31	120-82-1	
1,2,4-Trimethylbenzene	<12.3	ug/kg	56.1	12.3	1	01/17/17 16:50	01/18/17 03:31	95-63-6	
1,2-Dibromoethane (EDB)	<21.1	ug/kg	56.1	21.1	1	01/17/17 16:50	01/18/17 03:31	106-93-4	
1,2-Dichlorobenzene	<10.8	ug/kg	56.1	10.8	1	01/17/17 16:50	01/18/17 03:31	95-50-1	
1,2-Dichloroethane	<17.7	ug/kg	56.1	17.7	1	01/17/17 16:50	01/18/17 03:31	107-06-2	
1,3,5-Trimethylbenzene	<12.9	ug/kg	56.1	12.9	1	01/17/17 16:50	01/18/17 03:31	108-67-8	
1,3-Dichlorobenzene	<10.8	ug/kg	56.1	10.8	1	01/17/17 16:50	01/18/17 03:31	541-73-1	
1,4-Dichlorobenzene	<16.3	ug/kg	56.1	16.3	1	01/17/17 16:50	01/18/17 03:31	106-46-7	
2-Butanone (MEK)	<74.1	ug/kg	281	74.1	1	01/17/17 16:50	01/18/17 03:31	78-93-3	
2-Hexanone	<66.1	ug/kg	281	66.1	1	01/17/17 16:50	01/18/17 03:31	591-78-6	
4-Methyl-2-pentanone (MIBK)	<37.2	ug/kg	281	37.2	1	01/17/17 16:50	01/18/17 03:31	108-10-1	
Acetone	<368	ug/kg	1120	368	1	01/17/17 16:50	01/18/17 03:31	67-64-1	
Benzene	<4.8	ug/kg	22.5	4.8	1	01/17/17 16:50	01/18/17 03:31	71-43-2	
Bromodichloromethane	<15.7	ug/kg	56.1	15.7	1	01/17/17 16:50	01/18/17 03:31	75-27-4	
Bromoform	<48.4	ug/kg	225	48.4	1	01/17/17 16:50	01/18/17 03:31	75-25-2	
Bromomethane	<56.9	ug/kg	56.1	56.9	1	01/17/17 16:50	01/18/17 03:31	74-83-9	
Carbon tetrachloride	<17.6	ug/kg	56.1	17.6	1	01/17/17 16:50	01/18/17 03:31	56-23-5	
Chlorobenzene	<9.8	ug/kg	56.1	9.8	1	01/17/17 16:50	01/18/17 03:31	108-90-7	
Chloroethane	<88.7	ug/kg	56.1	88.7	1	01/17/17 16:50	01/18/17 03:31	75-00-3	
Chloroform	<27.3	ug/kg	56.1	27.3	1	01/17/17 16:50	01/18/17 03:31	67-66-3	
Chloromethane	<27.2	ug/kg	225	27.2	1	01/17/17 16:50	01/18/17 03:31	74-87-3	
Dibromochloromethane	<48.2	ug/kg	225	48.2	1	01/17/17 16:50	01/18/17 03:31	124-48-1	
Dichlorodifluoromethane	<17.2	ug/kg	225	17.2	1	01/17/17 16:50	01/18/17 03:31	75-71-8	
Ethylbenzene	<17.9	ug/kg	56.1	17.9	1	01/17/17 16:50	01/18/17 03:31	100-41-4	
Hexachloro-1,3-butadiene	<52.8	ug/kg	281	52.8	1	01/17/17 16:50	01/18/17 03:31	87-68-3	
Methyl-tert-butyl ether	<10.5	ug/kg	56.1	10.5	1	01/17/17 16:50	01/18/17 03:31	1634-04-4	
Methylene Chloride	<104	ug/kg	225	104	1	01/17/17 16:50	01/18/17 03:31	75-09-2	
Naphthalene	<13.6	ug/kg	225	13.6	1	01/17/17 16:50	01/18/17 03:31	91-20-3	
Styrene	<14.6	ug/kg	56.1	14.6	1	01/17/17 16:50	01/18/17 03:31	100-42-5	
Tetrachloroethene	<21.4	ug/kg	56.1	21.4	1	01/17/17 16:50	01/18/17 03:31	127-18-4	
Tetrahydrofuran	<278	ug/kg	2250	278	1	01/17/17 16:50	01/18/17 03:31	109-99-9	
Toluene	<17.9	ug/kg	56.1	17.9	1	01/17/17 16:50	01/18/17 03:31	108-88-3	
Trichloroethene	<16.1	ug/kg	56.1	16.1	1	01/17/17 16:50	01/18/17 03:31	79-01-6	
Trichlorofluoromethane	<56.4	ug/kg	225	56.4	1	01/17/17 16:50	01/18/17 03:31	75-69-4	
Vinyl acetate	<59.4	ug/kg	56.1	59.4	1	01/17/17 16:50	01/18/17 03:31	108-05-4	
Vinyl chloride	<7.2	ug/kg	22.5	7.2	1	01/17/17 16:50	01/18/17 03:31	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-25 **Lab ID: 10375909005** Collected: 01/11/17 09:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<20.9	ug/kg	56.1	20.9	1	01/17/17 16:50	01/18/17 03:31	156-59-2	
cis-1,3-Dichloropropene	<25.6	ug/kg	56.1	25.6	1	01/17/17 16:50	01/18/17 03:31	10061-01-5	
m&p-Xylene	<28.2	ug/kg	112	28.2	1	01/17/17 16:50	01/18/17 03:31	179601-23-1	
o-Xylene	<16.7	ug/kg	56.1	16.7	1	01/17/17 16:50	01/18/17 03:31	95-47-6	
trans-1,2-Dichloroethene	<27.1	ug/kg	56.1	27.1	1	01/17/17 16:50	01/18/17 03:31	156-60-5	
trans-1,3-Dichloropropene	<19.1	ug/kg	225	19.1	1	01/17/17 16:50	01/18/17 03:31	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/17/17 16:50	01/18/17 03:31	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1	01/17/17 16:50	01/18/17 03:31	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	01/17/17 16:50	01/18/17 03:31	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-30 **Lab ID: 10375909006** Collected: 01/11/17 10:10 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	27.8	%	0.10	0.10	1		01/13/17 16:47		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<29.5	ug/kg	70.6	29.5	1	01/18/17 11:40	01/18/17 14:56	71-55-6	
1,1,2,2-Tetrachloroethane	<15.7	ug/kg	70.6	15.7	1	01/18/17 11:40	01/18/17 14:56	79-34-5	
1,1,2-Trichloroethane	<15.3	ug/kg	70.6	15.3	1	01/18/17 11:40	01/18/17 14:56	79-00-5	
1,1,2-Trichlorotrifluoroethane	<50.9	ug/kg	283	50.9	1	01/18/17 11:40	01/18/17 14:56	76-13-1	
1,1-Dichloroethane	<27.4	ug/kg	70.6	27.4	1	01/18/17 11:40	01/18/17 14:56	75-34-3	
1,1-Dichloroethene	<17.9	ug/kg	70.6	17.9	1	01/18/17 11:40	01/18/17 14:56	75-35-4	
1,2,4-Trichlorobenzene	<21.8	ug/kg	70.6	21.8	1	01/18/17 11:40	01/18/17 14:56	120-82-1	
1,2,4-Trimethylbenzene	<15.5	ug/kg	70.6	15.5	1	01/18/17 11:40	01/18/17 14:56	95-63-6	
1,2-Dibromoethane (EDB)	<26.6	ug/kg	70.6	26.6	1	01/18/17 11:40	01/18/17 14:56	106-93-4	
1,2-Dichlorobenzene	<13.6	ug/kg	70.6	13.6	1	01/18/17 11:40	01/18/17 14:56	95-50-1	
1,2-Dichloroethane	<22.3	ug/kg	70.6	22.3	1	01/18/17 11:40	01/18/17 14:56	107-06-2	
1,3,5-Trimethylbenzene	<16.2	ug/kg	70.6	16.2	1	01/18/17 11:40	01/18/17 14:56	108-67-8	
1,3-Dichlorobenzene	<13.6	ug/kg	70.6	13.6	1	01/18/17 11:40	01/18/17 14:56	541-73-1	
1,4-Dichlorobenzene	<20.5	ug/kg	70.6	20.5	1	01/18/17 11:40	01/18/17 14:56	106-46-7	
2-Butanone (MEK)	<93.2	ug/kg	353	93.2	1	01/18/17 11:40	01/18/17 14:56	78-93-3	
2-Hexanone	<83.2	ug/kg	353	83.2	1	01/18/17 11:40	01/18/17 14:56	591-78-6	
4-Methyl-2-pentanone (MIBK)	<46.8	ug/kg	353	46.8	1	01/18/17 11:40	01/18/17 14:56	108-10-1	
Acetone	<463	ug/kg	1410	463	1	01/18/17 11:40	01/18/17 14:56	67-64-1	
Benzene	<6.1	ug/kg	28.3	6.1	1	01/18/17 11:40	01/18/17 14:56	71-43-2	
Bromodichloromethane	<19.8	ug/kg	70.6	19.8	1	01/18/17 11:40	01/18/17 14:56	75-27-4	
Bromoform	<60.9	ug/kg	283	60.9	1	01/18/17 11:40	01/18/17 14:56	75-25-2	
Bromomethane	<71.6	ug/kg	706	71.6	1	01/18/17 11:40	01/18/17 14:56	74-83-9	
Carbon tetrachloride	<22.2	ug/kg	70.6	22.2	1	01/18/17 11:40	01/18/17 14:56	56-23-5	
Chlorobenzene	<12.3	ug/kg	70.6	12.3	1	01/18/17 11:40	01/18/17 14:56	108-90-7	
Chloroethane	<112	ug/kg	706	112	1	01/18/17 11:40	01/18/17 14:56	75-00-3	
Chloroform	<34.3	ug/kg	70.6	34.3	1	01/18/17 11:40	01/18/17 14:56	67-66-3	
Chloromethane	<34.2	ug/kg	283	34.2	1	01/18/17 11:40	01/18/17 14:56	74-87-3	
Dibromochloromethane	<60.6	ug/kg	283	60.6	1	01/18/17 11:40	01/18/17 14:56	124-48-1	
Dichlorodifluoromethane	<21.6	ug/kg	283	21.6	1	01/18/17 11:40	01/18/17 14:56	75-71-8	
Ethylbenzene	<22.5	ug/kg	70.6	22.5	1	01/18/17 11:40	01/18/17 14:56	100-41-4	
Hexachloro-1,3-butadiene	<66.4	ug/kg	353	66.4	1	01/18/17 11:40	01/18/17 14:56	87-68-3	
Methyl-tert-butyl ether	<13.2	ug/kg	70.6	13.2	1	01/18/17 11:40	01/18/17 14:56	1634-04-4	
Methylene Chloride	<131	ug/kg	283	131	1	01/18/17 11:40	01/18/17 14:56	75-09-2	
Naphthalene	<17.1	ug/kg	283	17.1	1	01/18/17 11:40	01/18/17 14:56	91-20-3	
Styrene	<18.4	ug/kg	70.6	18.4	1	01/18/17 11:40	01/18/17 14:56	100-42-5	
Tetrachloroethene	<27.0	ug/kg	70.6	27.0	1	01/18/17 11:40	01/18/17 14:56	127-18-4	
Tetrahydrofuran	<350	ug/kg	2830	350	1	01/18/17 11:40	01/18/17 14:56	109-99-9	
Toluene	<22.5	ug/kg	70.6	22.5	1	01/18/17 11:40	01/18/17 14:56	108-88-3	
Trichloroethene	<20.2	ug/kg	70.6	20.2	1	01/18/17 11:40	01/18/17 14:56	79-01-6	
Trichlorofluoromethane	<70.9	ug/kg	283	70.9	1	01/18/17 11:40	01/18/17 14:56	75-69-4	
Vinyl acetate	<74.7	ug/kg	706	74.7	1	01/18/17 11:40	01/18/17 14:56	108-05-4	
Vinyl chloride	<9.1	ug/kg	28.3	9.1	1	01/18/17 11:40	01/18/17 14:56	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-30 **Lab ID: 10375909006** Collected: 01/11/17 10:10 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<26.3	ug/kg	70.6	26.3	1	01/18/17 11:40	01/18/17 14:56	156-59-2	
cis-1,3-Dichloropropene	<32.2	ug/kg	70.6	32.2	1	01/18/17 11:40	01/18/17 14:56	10061-01-5	
m&p-Xylene	<35.5	ug/kg	141	35.5	1	01/18/17 11:40	01/18/17 14:56	179601-23-1	
o-Xylene	<21.1	ug/kg	70.6	21.1	1	01/18/17 11:40	01/18/17 14:56	95-47-6	
trans-1,2-Dichloroethene	<34.0	ug/kg	70.6	34.0	1	01/18/17 11:40	01/18/17 14:56	156-60-5	
trans-1,3-Dichloropropene	<24.0	ug/kg	283	24.0	1	01/18/17 11:40	01/18/17 14:56	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-129		1	01/18/17 11:40	01/18/17 14:56	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/18/17 11:40	01/18/17 14:56	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/18/17 11:40	01/18/17 14:56	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-35 **Lab ID: 10375909007** Collected: 01/11/17 10:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	26.5	%	0.10	0.10	1		01/13/17 16:48		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<28.6	ug/kg	68.5	28.6	1	01/18/17 11:40	01/18/17 15:13	71-55-6	
1,1,2,2-Tetrachloroethane	<15.2	ug/kg	68.5	15.2	1	01/18/17 11:40	01/18/17 15:13	79-34-5	
1,1,2-Trichloroethane	<14.8	ug/kg	68.5	14.8	1	01/18/17 11:40	01/18/17 15:13	79-00-5	
1,1,2-Trichlorotrifluoroethane	<49.3	ug/kg	274	49.3	1	01/18/17 11:40	01/18/17 15:13	76-13-1	
1,1-Dichloroethane	<26.6	ug/kg	68.5	26.6	1	01/18/17 11:40	01/18/17 15:13	75-34-3	
1,1-Dichloroethene	<17.4	ug/kg	68.5	17.4	1	01/18/17 11:40	01/18/17 15:13	75-35-4	
1,2,4-Trichlorobenzene	<21.1	ug/kg	68.5	21.1	1	01/18/17 11:40	01/18/17 15:13	120-82-1	
1,2,4-Trimethylbenzene	<15.1	ug/kg	68.5	15.1	1	01/18/17 11:40	01/18/17 15:13	95-63-6	
1,2-Dibromoethane (EDB)	<25.8	ug/kg	68.5	25.8	1	01/18/17 11:40	01/18/17 15:13	106-93-4	
1,2-Dichlorobenzene	<13.2	ug/kg	68.5	13.2	1	01/18/17 11:40	01/18/17 15:13	95-50-1	
1,2-Dichloroethane	<21.7	ug/kg	68.5	21.7	1	01/18/17 11:40	01/18/17 15:13	107-06-2	
1,3,5-Trimethylbenzene	<15.8	ug/kg	68.5	15.8	1	01/18/17 11:40	01/18/17 15:13	108-67-8	
1,3-Dichlorobenzene	<13.2	ug/kg	68.5	13.2	1	01/18/17 11:40	01/18/17 15:13	541-73-1	
1,4-Dichlorobenzene	<19.9	ug/kg	68.5	19.9	1	01/18/17 11:40	01/18/17 15:13	106-46-7	
2-Butanone (MEK)	<90.5	ug/kg	343	90.5	1	01/18/17 11:40	01/18/17 15:13	78-93-3	
2-Hexanone	<80.7	ug/kg	343	80.7	1	01/18/17 11:40	01/18/17 15:13	591-78-6	
4-Methyl-2-pentanone (MIBK)	<45.4	ug/kg	343	45.4	1	01/18/17 11:40	01/18/17 15:13	108-10-1	
Acetone	<450	ug/kg	1370	450	1	01/18/17 11:40	01/18/17 15:13	67-64-1	
Benzene	<5.9	ug/kg	27.4	5.9	1	01/18/17 11:40	01/18/17 15:13	71-43-2	
Bromodichloromethane	<19.2	ug/kg	68.5	19.2	1	01/18/17 11:40	01/18/17 15:13	75-27-4	
Bromoform	<59.1	ug/kg	274	59.1	1	01/18/17 11:40	01/18/17 15:13	75-25-2	
Bromomethane	<69.5	ug/kg	685	69.5	1	01/18/17 11:40	01/18/17 15:13	74-83-9	
Carbon tetrachloride	<21.5	ug/kg	68.5	21.5	1	01/18/17 11:40	01/18/17 15:13	56-23-5	
Chlorobenzene	<11.9	ug/kg	68.5	11.9	1	01/18/17 11:40	01/18/17 15:13	108-90-7	
Chloroethane	<108	ug/kg	685	108	1	01/18/17 11:40	01/18/17 15:13	75-00-3	
Chloroform	<33.3	ug/kg	68.5	33.3	1	01/18/17 11:40	01/18/17 15:13	67-66-3	
Chloromethane	<33.2	ug/kg	274	33.2	1	01/18/17 11:40	01/18/17 15:13	74-87-3	
Dibromochloromethane	<58.8	ug/kg	274	58.8	1	01/18/17 11:40	01/18/17 15:13	124-48-1	
Dichlorodifluoromethane	<21.0	ug/kg	274	21.0	1	01/18/17 11:40	01/18/17 15:13	75-71-8	M1
Ethylbenzene	<21.8	ug/kg	68.5	21.8	1	01/18/17 11:40	01/18/17 15:13	100-41-4	
Hexachloro-1,3-butadiene	<64.4	ug/kg	343	64.4	1	01/18/17 11:40	01/18/17 15:13	87-68-3	
Methyl-tert-butyl ether	<12.8	ug/kg	68.5	12.8	1	01/18/17 11:40	01/18/17 15:13	1634-04-4	
Methylene Chloride	<127	ug/kg	274	127	1	01/18/17 11:40	01/18/17 15:13	75-09-2	
Naphthalene	<16.6	ug/kg	274	16.6	1	01/18/17 11:40	01/18/17 15:13	91-20-3	
Styrene	<17.8	ug/kg	68.5	17.8	1	01/18/17 11:40	01/18/17 15:13	100-42-5	
Tetrachloroethene	<26.2	ug/kg	68.5	26.2	1	01/18/17 11:40	01/18/17 15:13	127-18-4	
Tetrahydrofuran	<340	ug/kg	2740	340	1	01/18/17 11:40	01/18/17 15:13	109-99-9	
Toluene	<21.8	ug/kg	68.5	21.8	1	01/18/17 11:40	01/18/17 15:13	108-88-3	
Trichloroethene	<19.6	ug/kg	68.5	19.6	1	01/18/17 11:40	01/18/17 15:13	79-01-6	
Trichlorofluoromethane	<68.8	ug/kg	274	68.8	1	01/18/17 11:40	01/18/17 15:13	75-69-4	
Vinyl acetate	<72.5	ug/kg	685	72.5	1	01/18/17 11:40	01/18/17 15:13	108-05-4	
Vinyl chloride	<8.8	ug/kg	27.4	8.8	1	01/18/17 11:40	01/18/17 15:13	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-35 **Lab ID: 10375909007** Collected: 01/11/17 10:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.5	ug/kg	68.5	25.5	1	01/18/17 11:40	01/18/17 15:13	156-59-2	
cis-1,3-Dichloropropene	<31.2	ug/kg	68.5	31.2	1	01/18/17 11:40	01/18/17 15:13	10061-01-5	
m&p-Xylene	<34.4	ug/kg	137	34.4	1	01/18/17 11:40	01/18/17 15:13	179601-23-1	
o-Xylene	<20.4	ug/kg	68.5	20.4	1	01/18/17 11:40	01/18/17 15:13	95-47-6	
trans-1,2-Dichloroethene	<33.0	ug/kg	68.5	33.0	1	01/18/17 11:40	01/18/17 15:13	156-60-5	
trans-1,3-Dichloropropene	<23.3	ug/kg	274	23.3	1	01/18/17 11:40	01/18/17 15:13	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/18/17 11:40	01/18/17 15:13	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/18/17 11:40	01/18/17 15:13	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1	01/18/17 11:40	01/18/17 15:13	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-40 **Lab ID: 10375909008** Collected: 01/11/17 10:40 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	25.7	%	0.10	0.10	1		01/13/17 16:48		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.5	ug/kg	65.7	27.5	1	01/18/17 11:40	01/19/17 10:35	71-55-6	
1,1,2,2-Tetrachloroethane	<14.6	ug/kg	65.7	14.6	1	01/18/17 11:40	01/19/17 10:35	79-34-5	
1,1,2-Trichloroethane	<14.2	ug/kg	65.7	14.2	1	01/18/17 11:40	01/19/17 10:35	79-00-5	
1,1,2-Trichlorotrifluoroethane	<47.3	ug/kg	263	47.3	1	01/18/17 11:40	01/19/17 10:35	76-13-1	
1,1-Dichloroethane	<25.5	ug/kg	65.7	25.5	1	01/18/17 11:40	01/19/17 10:35	75-34-3	
1,1-Dichloroethene	<16.7	ug/kg	65.7	16.7	1	01/18/17 11:40	01/19/17 10:35	75-35-4	
1,2,4-Trichlorobenzene	<20.2	ug/kg	65.7	20.2	1	01/18/17 11:40	01/19/17 10:35	120-82-1	
1,2,4-Trimethylbenzene	<14.4	ug/kg	65.7	14.4	1	01/18/17 11:40	01/19/17 10:35	95-63-6	
1,2-Dibromoethane (EDB)	<24.7	ug/kg	65.7	24.7	1	01/18/17 11:40	01/19/17 10:35	106-93-4	
1,2-Dichlorobenzene	<12.7	ug/kg	65.7	12.7	1	01/18/17 11:40	01/19/17 10:35	95-50-1	
1,2-Dichloroethane	<20.8	ug/kg	65.7	20.8	1	01/18/17 11:40	01/19/17 10:35	107-06-2	
1,3,5-Trimethylbenzene	<15.1	ug/kg	65.7	15.1	1	01/18/17 11:40	01/19/17 10:35	108-67-8	
1,3-Dichlorobenzene	<12.7	ug/kg	65.7	12.7	1	01/18/17 11:40	01/19/17 10:35	541-73-1	
1,4-Dichlorobenzene	<19.0	ug/kg	65.7	19.0	1	01/18/17 11:40	01/19/17 10:35	106-46-7	
2-Butanone (MEK)	<86.7	ug/kg	328	86.7	1	01/18/17 11:40	01/19/17 10:35	78-93-3	
2-Hexanone	<77.4	ug/kg	328	77.4	1	01/18/17 11:40	01/19/17 10:35	591-78-6	
4-Methyl-2-pentanone (MIBK)	<43.5	ug/kg	328	43.5	1	01/18/17 11:40	01/19/17 10:35	108-10-1	
Acetone	<431	ug/kg	1310	431	1	01/18/17 11:40	01/19/17 10:35	67-64-1	
Benzene	<5.7	ug/kg	26.3	5.7	1	01/18/17 11:40	01/19/17 10:35	71-43-2	
Bromodichloromethane	<18.4	ug/kg	65.7	18.4	1	01/18/17 11:40	01/19/17 10:35	75-27-4	
Bromoform	<56.6	ug/kg	263	56.6	1	01/18/17 11:40	01/19/17 10:35	75-25-2	
Bromomethane	<66.6	ug/kg	657	66.6	1	01/18/17 11:40	01/19/17 10:35	74-83-9	
Carbon tetrachloride	<20.6	ug/kg	65.7	20.6	1	01/18/17 11:40	01/19/17 10:35	56-23-5	
Chlorobenzene	<11.4	ug/kg	65.7	11.4	1	01/18/17 11:40	01/19/17 10:35	108-90-7	
Chloroethane	<104	ug/kg	657	104	1	01/18/17 11:40	01/19/17 10:35	75-00-3	
Chloroform	<31.9	ug/kg	65.7	31.9	1	01/18/17 11:40	01/19/17 10:35	67-66-3	
Chloromethane	<31.8	ug/kg	263	31.8	1	01/18/17 11:40	01/19/17 10:35	74-87-3	
Dibromochloromethane	<56.3	ug/kg	263	56.3	1	01/18/17 11:40	01/19/17 10:35	124-48-1	
Dichlorodifluoromethane	<20.1	ug/kg	263	20.1	1	01/18/17 11:40	01/19/17 10:35	75-71-8	
Ethylbenzene	<20.9	ug/kg	65.7	20.9	1	01/18/17 11:40	01/19/17 10:35	100-41-4	
Hexachloro-1,3-butadiene	<61.7	ug/kg	328	61.7	1	01/18/17 11:40	01/19/17 10:35	87-68-3	
Methyl-tert-butyl ether	<12.3	ug/kg	65.7	12.3	1	01/18/17 11:40	01/19/17 10:35	1634-04-4	
Methylene Chloride	<122	ug/kg	263	122	1	01/18/17 11:40	01/19/17 10:35	75-09-2	
Naphthalene	<15.9	ug/kg	263	15.9	1	01/18/17 11:40	01/19/17 10:35	91-20-3	
Styrene	<17.1	ug/kg	65.7	17.1	1	01/18/17 11:40	01/19/17 10:35	100-42-5	
Tetrachloroethene	<25.1	ug/kg	65.7	25.1	1	01/18/17 11:40	01/19/17 10:35	127-18-4	
Tetrahydrofuran	<326	ug/kg	2630	326	1	01/18/17 11:40	01/19/17 10:35	109-99-9	
Toluene	39.5J	ug/kg	65.7	20.9	1	01/18/17 11:40	01/19/17 10:35	108-88-3	
Trichloroethene	<18.8	ug/kg	65.7	18.8	1	01/18/17 11:40	01/19/17 10:35	79-01-6	
Trichlorofluoromethane	<65.9	ug/kg	263	65.9	1	01/18/17 11:40	01/19/17 10:35	75-69-4	
Vinyl acetate	<69.5	ug/kg	657	69.5	1	01/18/17 11:40	01/19/17 10:35	108-05-4	
Vinyl chloride	<8.4	ug/kg	26.3	8.4	1	01/18/17 11:40	01/19/17 10:35	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-40 **Lab ID: 10375909008** Collected: 01/11/17 10:40 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.4	ug/kg	65.7	24.4	1	01/18/17 11:40	01/19/17 10:35	156-59-2	
cis-1,3-Dichloropropene	<29.9	ug/kg	65.7	29.9	1	01/18/17 11:40	01/19/17 10:35	10061-01-5	
m&p-Xylene	<33.0	ug/kg	131	33.0	1	01/18/17 11:40	01/19/17 10:35	179601-23-1	
o-Xylene	<19.6	ug/kg	65.7	19.6	1	01/18/17 11:40	01/19/17 10:35	95-47-6	
trans-1,2-Dichloroethene	<31.7	ug/kg	65.7	31.7	1	01/18/17 11:40	01/19/17 10:35	156-60-5	
trans-1,3-Dichloropropene	<22.3	ug/kg	263	22.3	1	01/18/17 11:40	01/19/17 10:35	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-129		1	01/18/17 11:40	01/19/17 10:35	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/18/17 11:40	01/19/17 10:35	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1	01/18/17 11:40	01/19/17 10:35	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-45 **Lab ID: 10375909009** Collected: 01/11/17 10:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	27.0	%	0.10	0.10	1		01/13/17 16:49		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.2	ug/kg	74.6	31.2	1	01/18/17 11:40	01/18/17 15:29	71-55-6	
1,1,2,2-Tetrachloroethane	<16.6	ug/kg	74.6	16.6	1	01/18/17 11:40	01/18/17 15:29	79-34-5	
1,1,2-Trichloroethane	<16.1	ug/kg	74.6	16.1	1	01/18/17 11:40	01/18/17 15:29	79-00-5	
1,1,2-Trichlorotrifluoroethane	<53.7	ug/kg	298	53.7	1	01/18/17 11:40	01/18/17 15:29	76-13-1	
1,1-Dichloroethane	<28.9	ug/kg	74.6	28.9	1	01/18/17 11:40	01/18/17 15:29	75-34-3	
1,1-Dichloroethene	<19.0	ug/kg	74.6	19.0	1	01/18/17 11:40	01/18/17 15:29	75-35-4	
1,2,4-Trichlorobenzene	<23.0	ug/kg	74.6	23.0	1	01/18/17 11:40	01/18/17 15:29	120-82-1	
1,2,4-Trimethylbenzene	<16.4	ug/kg	74.6	16.4	1	01/18/17 11:40	01/18/17 15:29	95-63-6	
1,2-Dibromoethane (EDB)	<28.1	ug/kg	74.6	28.1	1	01/18/17 11:40	01/18/17 15:29	106-93-4	
1,2-Dichlorobenzene	<14.4	ug/kg	74.6	14.4	1	01/18/17 11:40	01/18/17 15:29	95-50-1	
1,2-Dichloroethane	<23.6	ug/kg	74.6	23.6	1	01/18/17 11:40	01/18/17 15:29	107-06-2	
1,3,5-Trimethylbenzene	<17.2	ug/kg	74.6	17.2	1	01/18/17 11:40	01/18/17 15:29	108-67-8	
1,3-Dichlorobenzene	<14.4	ug/kg	74.6	14.4	1	01/18/17 11:40	01/18/17 15:29	541-73-1	
1,4-Dichlorobenzene	<21.6	ug/kg	74.6	21.6	1	01/18/17 11:40	01/18/17 15:29	106-46-7	
2-Butanone (MEK)	<98.5	ug/kg	373	98.5	1	01/18/17 11:40	01/18/17 15:29	78-93-3	
2-Hexanone	<87.9	ug/kg	373	87.9	1	01/18/17 11:40	01/18/17 15:29	591-78-6	
4-Methyl-2-pentanone (MIBK)	<49.4	ug/kg	373	49.4	1	01/18/17 11:40	01/18/17 15:29	108-10-1	
Acetone	<489	ug/kg	1490	489	1	01/18/17 11:40	01/18/17 15:29	67-64-1	
Benzene	<6.4	ug/kg	29.8	6.4	1	01/18/17 11:40	01/18/17 15:29	71-43-2	
Bromodichloromethane	<20.9	ug/kg	74.6	20.9	1	01/18/17 11:40	01/18/17 15:29	75-27-4	
Bromoform	<64.3	ug/kg	298	64.3	1	01/18/17 11:40	01/18/17 15:29	75-25-2	
Bromomethane	<75.7	ug/kg	746	75.7	1	01/18/17 11:40	01/18/17 15:29	74-83-9	
Carbon tetrachloride	<23.4	ug/kg	74.6	23.4	1	01/18/17 11:40	01/18/17 15:29	56-23-5	
Chlorobenzene	<13.0	ug/kg	74.6	13.0	1	01/18/17 11:40	01/18/17 15:29	108-90-7	
Chloroethane	<118	ug/kg	746	118	1	01/18/17 11:40	01/18/17 15:29	75-00-3	
Chloroform	<36.3	ug/kg	74.6	36.3	1	01/18/17 11:40	01/18/17 15:29	67-66-3	
Chloromethane	<36.1	ug/kg	298	36.1	1	01/18/17 11:40	01/18/17 15:29	74-87-3	
Dibromochloromethane	<64.0	ug/kg	298	64.0	1	01/18/17 11:40	01/18/17 15:29	124-48-1	
Dichlorodifluoromethane	<22.8	ug/kg	298	22.8	1	01/18/17 11:40	01/18/17 15:29	75-71-8	
Ethylbenzene	<23.7	ug/kg	74.6	23.7	1	01/18/17 11:40	01/18/17 15:29	100-41-4	
Hexachloro-1,3-butadiene	<70.1	ug/kg	373	70.1	1	01/18/17 11:40	01/18/17 15:29	87-68-3	
Methyl-tert-butyl ether	<14.0	ug/kg	74.6	14.0	1	01/18/17 11:40	01/18/17 15:29	1634-04-4	
Methylene Chloride	<138	ug/kg	298	138	1	01/18/17 11:40	01/18/17 15:29	75-09-2	
Naphthalene	<18.1	ug/kg	298	18.1	1	01/18/17 11:40	01/18/17 15:29	91-20-3	
Styrene	<19.4	ug/kg	74.6	19.4	1	01/18/17 11:40	01/18/17 15:29	100-42-5	
Tetrachloroethene	<28.5	ug/kg	74.6	28.5	1	01/18/17 11:40	01/18/17 15:29	127-18-4	
Tetrahydrofuran	<370	ug/kg	2980	370	1	01/18/17 11:40	01/18/17 15:29	109-99-9	
Toluene	<23.7	ug/kg	74.6	23.7	1	01/18/17 11:40	01/18/17 15:29	108-88-3	
Trichloroethene	<21.3	ug/kg	74.6	21.3	1	01/18/17 11:40	01/18/17 15:29	79-01-6	
Trichlorofluoromethane	<74.9	ug/kg	298	74.9	1	01/18/17 11:40	01/18/17 15:29	75-69-4	
Vinyl acetate	<78.9	ug/kg	746	78.9	1	01/18/17 11:40	01/18/17 15:29	108-05-4	
Vinyl chloride	<9.6	ug/kg	29.8	9.6	1	01/18/17 11:40	01/18/17 15:29	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-45 **Lab ID: 10375909009** Collected: 01/11/17 10:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<27.8	ug/kg	74.6	27.8	1	01/18/17 11:40	01/18/17 15:29	156-59-2	
cis-1,3-Dichloropropene	<34.0	ug/kg	74.6	34.0	1	01/18/17 11:40	01/18/17 15:29	10061-01-5	
m&p-Xylene	<37.5	ug/kg	149	37.5	1	01/18/17 11:40	01/18/17 15:29	179601-23-1	
o-Xylene	<22.2	ug/kg	74.6	22.2	1	01/18/17 11:40	01/18/17 15:29	95-47-6	
trans-1,2-Dichloroethene	<36.0	ug/kg	74.6	36.0	1	01/18/17 11:40	01/18/17 15:29	156-60-5	
trans-1,3-Dichloropropene	<25.4	ug/kg	298	25.4	1	01/18/17 11:40	01/18/17 15:29	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	84	%	75-129		1	01/18/17 11:40	01/18/17 15:29	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/18/17 11:40	01/18/17 15:29	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/18/17 11:40	01/18/17 15:29	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: **SB36-SS-50** Lab ID: **10375909010** Collected: 01/11/17 11:00 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	18.6	%	0.10	0.10	1		01/13/17 16:49		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<28.0	ug/kg	67.0	28.0	1	01/18/17 11:40	01/18/17 15:45	71-55-6	
1,1,2,2-Tetrachloroethane	<14.9	ug/kg	67.0	14.9	1	01/18/17 11:40	01/18/17 15:45	79-34-5	
1,1,2-Trichloroethane	<14.5	ug/kg	67.0	14.5	1	01/18/17 11:40	01/18/17 15:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<48.3	ug/kg	268	48.3	1	01/18/17 11:40	01/18/17 15:45	76-13-1	
1,1-Dichloroethane	<26.0	ug/kg	67.0	26.0	1	01/18/17 11:40	01/18/17 15:45	75-34-3	
1,1-Dichloroethene	<17.0	ug/kg	67.0	17.0	1	01/18/17 11:40	01/18/17 15:45	75-35-4	
1,2,4-Trichlorobenzene	<20.6	ug/kg	67.0	20.6	1	01/18/17 11:40	01/18/17 15:45	120-82-1	
1,2,4-Trimethylbenzene	<14.7	ug/kg	67.0	14.7	1	01/18/17 11:40	01/18/17 15:45	95-63-6	
1,2-Dibromoethane (EDB)	<25.2	ug/kg	67.0	25.2	1	01/18/17 11:40	01/18/17 15:45	106-93-4	
1,2-Dichlorobenzene	<12.9	ug/kg	67.0	12.9	1	01/18/17 11:40	01/18/17 15:45	95-50-1	
1,2-Dichloroethane	<21.2	ug/kg	67.0	21.2	1	01/18/17 11:40	01/18/17 15:45	107-06-2	
1,3,5-Trimethylbenzene	<15.4	ug/kg	67.0	15.4	1	01/18/17 11:40	01/18/17 15:45	108-67-8	
1,3-Dichlorobenzene	<12.9	ug/kg	67.0	12.9	1	01/18/17 11:40	01/18/17 15:45	541-73-1	
1,4-Dichlorobenzene	<19.4	ug/kg	67.0	19.4	1	01/18/17 11:40	01/18/17 15:45	106-46-7	
2-Butanone (MEK)	<88.5	ug/kg	335	88.5	1	01/18/17 11:40	01/18/17 15:45	78-93-3	
2-Hexanone	<79.0	ug/kg	335	79.0	1	01/18/17 11:40	01/18/17 15:45	591-78-6	
4-Methyl-2-pentanone (MIBK)	<44.4	ug/kg	335	44.4	1	01/18/17 11:40	01/18/17 15:45	108-10-1	
Acetone	<440	ug/kg	1340	440	1	01/18/17 11:40	01/18/17 15:45	67-64-1	
Benzene	<5.8	ug/kg	26.8	5.8	1	01/18/17 11:40	01/18/17 15:45	71-43-2	
Bromodichloromethane	<18.8	ug/kg	67.0	18.8	1	01/18/17 11:40	01/18/17 15:45	75-27-4	
Bromoform	<57.8	ug/kg	268	57.8	1	01/18/17 11:40	01/18/17 15:45	75-25-2	
Bromomethane	<68.0	ug/kg	670	68.0	1	01/18/17 11:40	01/18/17 15:45	74-83-9	
Carbon tetrachloride	<21.0	ug/kg	67.0	21.0	1	01/18/17 11:40	01/18/17 15:45	56-23-5	
Chlorobenzene	<11.7	ug/kg	67.0	11.7	1	01/18/17 11:40	01/18/17 15:45	108-90-7	
Chloroethane	<106	ug/kg	670	106	1	01/18/17 11:40	01/18/17 15:45	75-00-3	
Chloroform	<32.6	ug/kg	67.0	32.6	1	01/18/17 11:40	01/18/17 15:45	67-66-3	
Chloromethane	<32.4	ug/kg	268	32.4	1	01/18/17 11:40	01/18/17 15:45	74-87-3	
Dibromochloromethane	<57.5	ug/kg	268	57.5	1	01/18/17 11:40	01/18/17 15:45	124-48-1	
Dichlorodifluoromethane	<20.5	ug/kg	268	20.5	1	01/18/17 11:40	01/18/17 15:45	75-71-8	
Ethylbenzene	<21.3	ug/kg	67.0	21.3	1	01/18/17 11:40	01/18/17 15:45	100-41-4	
Hexachloro-1,3-butadiene	<63.0	ug/kg	335	63.0	1	01/18/17 11:40	01/18/17 15:45	87-68-3	
Methyl-tert-butyl ether	<12.5	ug/kg	67.0	12.5	1	01/18/17 11:40	01/18/17 15:45	1634-04-4	
Methylene Chloride	<124	ug/kg	268	124	1	01/18/17 11:40	01/18/17 15:45	75-09-2	
Naphthalene	<16.2	ug/kg	268	16.2	1	01/18/17 11:40	01/18/17 15:45	91-20-3	
Styrene	<17.4	ug/kg	67.0	17.4	1	01/18/17 11:40	01/18/17 15:45	100-42-5	
Tetrachloroethene	<25.6	ug/kg	67.0	25.6	1	01/18/17 11:40	01/18/17 15:45	127-18-4	
Tetrahydrofuran	<332	ug/kg	2680	332	1	01/18/17 11:40	01/18/17 15:45	109-99-9	
Toluene	<21.3	ug/kg	67.0	21.3	1	01/18/17 11:40	01/18/17 15:45	108-88-3	
Trichloroethene	<19.2	ug/kg	67.0	19.2	1	01/18/17 11:40	01/18/17 15:45	79-01-6	
Trichlorofluoromethane	<67.3	ug/kg	268	67.3	1	01/18/17 11:40	01/18/17 15:45	75-69-4	
Vinyl acetate	<70.9	ug/kg	670	70.9	1	01/18/17 11:40	01/18/17 15:45	108-05-4	
Vinyl chloride	<8.6	ug/kg	26.8	8.6	1	01/18/17 11:40	01/18/17 15:45	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB36-SS-50 **Lab ID: 10375909010** Collected: 01/11/17 11:00 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.9	ug/kg	67.0	24.9	1	01/18/17 11:40	01/18/17 15:45	156-59-2	
cis-1,3-Dichloropropene	<30.6	ug/kg	67.0	30.6	1	01/18/17 11:40	01/18/17 15:45	10061-01-5	
m&p-Xylene	<33.6	ug/kg	134	33.6	1	01/18/17 11:40	01/18/17 15:45	179601-23-1	
o-Xylene	<20.0	ug/kg	67.0	20.0	1	01/18/17 11:40	01/18/17 15:45	95-47-6	
trans-1,2-Dichloroethene	<32.3	ug/kg	67.0	32.3	1	01/18/17 11:40	01/18/17 15:45	156-60-5	
trans-1,3-Dichloropropene	<22.8	ug/kg	268	22.8	1	01/18/17 11:40	01/18/17 15:45	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/18/17 11:40	01/18/17 15:45	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/18/17 11:40	01/18/17 15:45	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/18/17 11:40	01/18/17 15:45	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SSFD-2 **Lab ID: 10375909011** Collected: 01/11/17 08:55 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	28.0	%	0.10	0.10	1		01/13/17 16:49		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	< 27.1	ug/kg	64.9	27.1	1	01/18/17 11:40	01/19/17 10:51	71-55-6	
1,1,2,2-Tetrachloroethane	< 14.4	ug/kg	64.9	14.4	1	01/18/17 11:40	01/19/17 10:51	79-34-5	
1,1,2-Trichloroethane	< 14.0	ug/kg	64.9	14.0	1	01/18/17 11:40	01/19/17 10:51	79-00-5	
1,1,2-Trichlorotrifluoroethane	< 46.7	ug/kg	260	46.7	1	01/18/17 11:40	01/19/17 10:51	76-13-1	
1,1-Dichloroethane	< 25.2	ug/kg	64.9	25.2	1	01/18/17 11:40	01/19/17 10:51	75-34-3	
1,1-Dichloroethene	< 16.5	ug/kg	64.9	16.5	1	01/18/17 11:40	01/19/17 10:51	75-35-4	
1,2,4-Trichlorobenzene	< 20.0	ug/kg	64.9	20.0	1	01/18/17 11:40	01/19/17 10:51	120-82-1	
1,2,4-Trimethylbenzene	< 14.3	ug/kg	64.9	14.3	1	01/18/17 11:40	01/19/17 10:51	95-63-6	
1,2-Dibromoethane (EDB)	< 24.4	ug/kg	64.9	24.4	1	01/18/17 11:40	01/19/17 10:51	106-93-4	
1,2-Dichlorobenzene	< 12.5	ug/kg	64.9	12.5	1	01/18/17 11:40	01/19/17 10:51	95-50-1	
1,2-Dichloroethane	< 20.5	ug/kg	64.9	20.5	1	01/18/17 11:40	01/19/17 10:51	107-06-2	
1,3,5-Trimethylbenzene	< 14.9	ug/kg	64.9	14.9	1	01/18/17 11:40	01/19/17 10:51	108-67-8	
1,3-Dichlorobenzene	< 12.5	ug/kg	64.9	12.5	1	01/18/17 11:40	01/19/17 10:51	541-73-1	
1,4-Dichlorobenzene	< 18.8	ug/kg	64.9	18.8	1	01/18/17 11:40	01/19/17 10:51	106-46-7	
2-Butanone (MEK)	< 85.7	ug/kg	324	85.7	1	01/18/17 11:40	01/19/17 10:51	78-93-3	
2-Hexanone	< 76.4	ug/kg	324	76.4	1	01/18/17 11:40	01/19/17 10:51	591-78-6	
4-Methyl-2-pentanone (MIBK)	< 43.0	ug/kg	324	43.0	1	01/18/17 11:40	01/19/17 10:51	108-10-1	
Acetone	< 426	ug/kg	1300	426	1	01/18/17 11:40	01/19/17 10:51	67-64-1	
Benzene	< 5.6	ug/kg	26.0	5.6	1	01/18/17 11:40	01/19/17 10:51	71-43-2	
Bromodichloromethane	< 18.2	ug/kg	64.9	18.2	1	01/18/17 11:40	01/19/17 10:51	75-27-4	
Bromoform	< 55.9	ug/kg	260	55.9	1	01/18/17 11:40	01/19/17 10:51	75-25-2	
Bromomethane	< 65.8	ug/kg	649	65.8	1	01/18/17 11:40	01/19/17 10:51	74-83-9	
Carbon tetrachloride	< 20.4	ug/kg	64.9	20.4	1	01/18/17 11:40	01/19/17 10:51	56-23-5	
Chlorobenzene	< 11.3	ug/kg	64.9	11.3	1	01/18/17 11:40	01/19/17 10:51	108-90-7	
Chloroethane	< 103	ug/kg	649	103	1	01/18/17 11:40	01/19/17 10:51	75-00-3	
Chloroform	< 31.5	ug/kg	64.9	31.5	1	01/18/17 11:40	01/19/17 10:51	67-66-3	
Chloromethane	< 31.4	ug/kg	260	31.4	1	01/18/17 11:40	01/19/17 10:51	74-87-3	
Dibromochloromethane	< 55.7	ug/kg	260	55.7	1	01/18/17 11:40	01/19/17 10:51	124-48-1	
Dichlorodifluoromethane	< 19.9	ug/kg	260	19.9	1	01/18/17 11:40	01/19/17 10:51	75-71-8	
Ethylbenzene	< 20.6	ug/kg	64.9	20.6	1	01/18/17 11:40	01/19/17 10:51	100-41-4	
Hexachloro-1,3-butadiene	< 61.0	ug/kg	324	61.0	1	01/18/17 11:40	01/19/17 10:51	87-68-3	
Methyl-tert-butyl ether	< 12.1	ug/kg	64.9	12.1	1	01/18/17 11:40	01/19/17 10:51	1634-04-4	
Methylene Chloride	< 120	ug/kg	260	120	1	01/18/17 11:40	01/19/17 10:51	75-09-2	
Naphthalene	< 15.7	ug/kg	260	15.7	1	01/18/17 11:40	01/19/17 10:51	91-20-3	
Styrene	< 16.9	ug/kg	64.9	16.9	1	01/18/17 11:40	01/19/17 10:51	100-42-5	
Tetrachloroethene	< 24.8	ug/kg	64.9	24.8	1	01/18/17 11:40	01/19/17 10:51	127-18-4	
Tetrahydrofuran	< 322	ug/kg	2600	322	1	01/18/17 11:40	01/19/17 10:51	109-99-9	
Toluene	34.8J	ug/kg	64.9	20.6	1	01/18/17 11:40	01/19/17 10:51	108-88-3	
Trichloroethene	< 18.6	ug/kg	64.9	18.6	1	01/18/17 11:40	01/19/17 10:51	79-01-6	
Trichlorofluoromethane	< 65.1	ug/kg	260	65.1	1	01/18/17 11:40	01/19/17 10:51	75-69-4	
Vinyl acetate	< 68.7	ug/kg	649	68.7	1	01/18/17 11:40	01/19/17 10:51	108-05-4	
Vinyl chloride	< 8.3	ug/kg	26.0	8.3	1	01/18/17 11:40	01/19/17 10:51	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SSFD-2 **Lab ID: 10375909011** Collected: 01/11/17 08:55 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.1	ug/kg	64.9	24.1	1	01/18/17 11:40	01/19/17 10:51	156-59-2	
cis-1,3-Dichloropropene	<29.6	ug/kg	64.9	29.6	1	01/18/17 11:40	01/19/17 10:51	10061-01-5	
m&p-Xylene	<32.6	ug/kg	130	32.6	1	01/18/17 11:40	01/19/17 10:51	179601-23-1	
o-Xylene	<19.3	ug/kg	64.9	19.3	1	01/18/17 11:40	01/19/17 10:51	95-47-6	
trans-1,2-Dichloroethene	<31.3	ug/kg	64.9	31.3	1	01/18/17 11:40	01/19/17 10:51	156-60-5	
trans-1,3-Dichloropropene	<22.1	ug/kg	260	22.1	1	01/18/17 11:40	01/19/17 10:51	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	84	%	75-129		1	01/18/17 11:40	01/19/17 10:51	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/18/17 11:40	01/19/17 10:51	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/18/17 11:40	01/19/17 10:51	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-5 **Lab ID: 10375909012** Collected: 01/11/17 14:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	16.7	%	0.10	0.10	1		01/13/17 16:49		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.9	ug/kg	57.2	23.9	1	01/18/17 11:40	01/18/17 16:02	71-55-6	
1,1,2,2-Tetrachloroethane	<12.7	ug/kg	57.2	12.7	1	01/18/17 11:40	01/18/17 16:02	79-34-5	
1,1,2-Trichloroethane	<12.3	ug/kg	57.2	12.3	1	01/18/17 11:40	01/18/17 16:02	79-00-5	
1,1,2-Trichlorotrifluoroethane	<41.2	ug/kg	229	41.2	1	01/18/17 11:40	01/18/17 16:02	76-13-1	
1,1-Dichloroethane	<22.2	ug/kg	57.2	22.2	1	01/18/17 11:40	01/18/17 16:02	75-34-3	
1,1-Dichloroethene	<14.5	ug/kg	57.2	14.5	1	01/18/17 11:40	01/18/17 16:02	75-35-4	
1,2,4-Trichlorobenzene	<17.6	ug/kg	57.2	17.6	1	01/18/17 11:40	01/18/17 16:02	120-82-1	
1,2,4-Trimethylbenzene	<12.6	ug/kg	57.2	12.6	1	01/18/17 11:40	01/18/17 16:02	95-63-6	
1,2-Dibromoethane (EDB)	<21.5	ug/kg	57.2	21.5	1	01/18/17 11:40	01/18/17 16:02	106-93-4	
1,2-Dichlorobenzene	<11.0	ug/kg	57.2	11.0	1	01/18/17 11:40	01/18/17 16:02	95-50-1	
1,2-Dichloroethane	<18.1	ug/kg	57.2	18.1	1	01/18/17 11:40	01/18/17 16:02	107-06-2	
1,3,5-Trimethylbenzene	<13.1	ug/kg	57.2	13.1	1	01/18/17 11:40	01/18/17 16:02	108-67-8	
1,3-Dichlorobenzene	<11.0	ug/kg	57.2	11.0	1	01/18/17 11:40	01/18/17 16:02	541-73-1	
1,4-Dichlorobenzene	<16.6	ug/kg	57.2	16.6	1	01/18/17 11:40	01/18/17 16:02	106-46-7	
2-Butanone (MEK)	<75.5	ug/kg	286	75.5	1	01/18/17 11:40	01/18/17 16:02	78-93-3	
2-Hexanone	<67.3	ug/kg	286	67.3	1	01/18/17 11:40	01/18/17 16:02	591-78-6	
4-Methyl-2-pentanone (MIBK)	<37.8	ug/kg	286	37.8	1	01/18/17 11:40	01/18/17 16:02	108-10-1	
Acetone	<375	ug/kg	1140	375	1	01/18/17 11:40	01/18/17 16:02	67-64-1	
Benzene	<4.9	ug/kg	22.9	4.9	1	01/18/17 11:40	01/18/17 16:02	71-43-2	
Bromodichloromethane	<16.0	ug/kg	57.2	16.0	1	01/18/17 11:40	01/18/17 16:02	75-27-4	
Bromoform	<49.3	ug/kg	229	49.3	1	01/18/17 11:40	01/18/17 16:02	75-25-2	
Bromomethane	<58.0	ug/kg	572	58.0	1	01/18/17 11:40	01/18/17 16:02	74-83-9	
Carbon tetrachloride	<18.0	ug/kg	57.2	18.0	1	01/18/17 11:40	01/18/17 16:02	56-23-5	
Chlorobenzene	<9.9	ug/kg	57.2	9.9	1	01/18/17 11:40	01/18/17 16:02	108-90-7	
Chloroethane	<90.3	ug/kg	572	90.3	1	01/18/17 11:40	01/18/17 16:02	75-00-3	
Chloroform	<27.8	ug/kg	57.2	27.8	1	01/18/17 11:40	01/18/17 16:02	67-66-3	
Chloromethane	<27.7	ug/kg	229	27.7	1	01/18/17 11:40	01/18/17 16:02	74-87-3	
Dibromochloromethane	<49.1	ug/kg	229	49.1	1	01/18/17 11:40	01/18/17 16:02	124-48-1	
Dichlorodifluoromethane	<17.5	ug/kg	229	17.5	1	01/18/17 11:40	01/18/17 16:02	75-71-8	
Ethylbenzene	<18.2	ug/kg	57.2	18.2	1	01/18/17 11:40	01/18/17 16:02	100-41-4	
Hexachloro-1,3-butadiene	<53.7	ug/kg	286	53.7	1	01/18/17 11:40	01/18/17 16:02	87-68-3	
Methyl-tert-butyl ether	<10.7	ug/kg	57.2	10.7	1	01/18/17 11:40	01/18/17 16:02	1634-04-4	
Methylene Chloride	<106	ug/kg	229	106	1	01/18/17 11:40	01/18/17 16:02	75-09-2	
Naphthalene	<13.8	ug/kg	229	13.8	1	01/18/17 11:40	01/18/17 16:02	91-20-3	
Styrene	<14.9	ug/kg	57.2	14.9	1	01/18/17 11:40	01/18/17 16:02	100-42-5	
Tetrachloroethene	<21.8	ug/kg	57.2	21.8	1	01/18/17 11:40	01/18/17 16:02	127-18-4	
Tetrahydrofuran	<284	ug/kg	2290	284	1	01/18/17 11:40	01/18/17 16:02	109-99-9	
Toluene	<18.2	ug/kg	57.2	18.2	1	01/18/17 11:40	01/18/17 16:02	108-88-3	
Trichloroethene	<16.4	ug/kg	57.2	16.4	1	01/18/17 11:40	01/18/17 16:02	79-01-6	
Trichlorofluoromethane	<57.4	ug/kg	229	57.4	1	01/18/17 11:40	01/18/17 16:02	75-69-4	
Vinyl acetate	<60.5	ug/kg	572	60.5	1	01/18/17 11:40	01/18/17 16:02	108-05-4	
Vinyl chloride	<7.3	ug/kg	22.9	7.3	1	01/18/17 11:40	01/18/17 16:02	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-5 **Lab ID: 10375909012** Collected: 01/11/17 14:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<21.3	ug/kg	57.2	21.3	1	01/18/17 11:40	01/18/17 16:02	156-59-2	
cis-1,3-Dichloropropene	<26.1	ug/kg	57.2	26.1	1	01/18/17 11:40	01/18/17 16:02	10061-01-5	
m&p-Xylene	<28.7	ug/kg	114	28.7	1	01/18/17 11:40	01/18/17 16:02	179601-23-1	
o-Xylene	<17.0	ug/kg	57.2	17.0	1	01/18/17 11:40	01/18/17 16:02	95-47-6	
trans-1,2-Dichloroethene	<27.6	ug/kg	57.2	27.6	1	01/18/17 11:40	01/18/17 16:02	156-60-5	
trans-1,3-Dichloropropene	<19.4	ug/kg	229	19.4	1	01/18/17 11:40	01/18/17 16:02	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%	75-129		1	01/18/17 11:40	01/18/17 16:02	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/18/17 11:40	01/18/17 16:02	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/18/17 11:40	01/18/17 16:02	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SSFD-3 **Lab ID: 10375909013** Collected: 01/11/17 14:30 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	24.4	%	0.10	0.10	1		01/13/17 16:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<28.8	ug/kg	68.8	28.8	1	01/18/17 11:40	01/18/17 19:48	71-55-6	
1,1,2,2-Tetrachloroethane	<15.3	ug/kg	68.8	15.3	1	01/18/17 11:40	01/18/17 19:48	79-34-5	
1,1,2-Trichloroethane	<14.9	ug/kg	68.8	14.9	1	01/18/17 11:40	01/18/17 19:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<49.5	ug/kg	275	49.5	1	01/18/17 11:40	01/18/17 19:48	76-13-1	
1,1-Dichloroethane	<26.7	ug/kg	68.8	26.7	1	01/18/17 11:40	01/18/17 19:48	75-34-3	
1,1-Dichloroethene	<17.5	ug/kg	68.8	17.5	1	01/18/17 11:40	01/18/17 19:48	75-35-4	
1,2,4-Trichlorobenzene	<21.2	ug/kg	68.8	21.2	1	01/18/17 11:40	01/18/17 19:48	120-82-1	
1,2,4-Trimethylbenzene	34.3J	ug/kg	68.8	15.1	1	01/18/17 11:40	01/18/17 19:48	95-63-6	
1,2-Dibromoethane (EDB)	<25.9	ug/kg	68.8	25.9	1	01/18/17 11:40	01/18/17 19:48	106-93-4	
1,2-Dichlorobenzene	<13.3	ug/kg	68.8	13.3	1	01/18/17 11:40	01/18/17 19:48	95-50-1	
1,2-Dichloroethane	<21.7	ug/kg	68.8	21.7	1	01/18/17 11:40	01/18/17 19:48	107-06-2	
1,3,5-Trimethylbenzene	<15.8	ug/kg	68.8	15.8	1	01/18/17 11:40	01/18/17 19:48	108-67-8	
1,3-Dichlorobenzene	<13.3	ug/kg	68.8	13.3	1	01/18/17 11:40	01/18/17 19:48	541-73-1	
1,4-Dichlorobenzene	<19.9	ug/kg	68.8	19.9	1	01/18/17 11:40	01/18/17 19:48	106-46-7	
2-Butanone (MEK)	<90.8	ug/kg	344	90.8	1	01/18/17 11:40	01/18/17 19:48	78-93-3	
2-Hexanone	<81.0	ug/kg	344	81.0	1	01/18/17 11:40	01/18/17 19:48	591-78-6	
4-Methyl-2-pentanone (MIBK)	<45.5	ug/kg	344	45.5	1	01/18/17 11:40	01/18/17 19:48	108-10-1	
Acetone	<451	ug/kg	1380	451	1	01/18/17 11:40	01/18/17 19:48	67-64-1	
Benzene	<5.9	ug/kg	27.5	5.9	1	01/18/17 11:40	01/18/17 19:48	71-43-2	
Bromodichloromethane	<19.3	ug/kg	68.8	19.3	1	01/18/17 11:40	01/18/17 19:48	75-27-4	
Bromoform	<59.3	ug/kg	275	59.3	1	01/18/17 11:40	01/18/17 19:48	75-25-2	
Bromomethane	<69.7	ug/kg	688	69.7	1	01/18/17 11:40	01/18/17 19:48	74-83-9	
Carbon tetrachloride	<21.6	ug/kg	68.8	21.6	1	01/18/17 11:40	01/18/17 19:48	56-23-5	
Chlorobenzene	<12.0	ug/kg	68.8	12.0	1	01/18/17 11:40	01/18/17 19:48	108-90-7	
Chloroethane	<109	ug/kg	688	109	1	01/18/17 11:40	01/18/17 19:48	75-00-3	
Chloroform	<33.4	ug/kg	68.8	33.4	1	01/18/17 11:40	01/18/17 19:48	67-66-3	
Chloromethane	<33.3	ug/kg	275	33.3	1	01/18/17 11:40	01/18/17 19:48	74-87-3	
Dibromochloromethane	<59.0	ug/kg	275	59.0	1	01/18/17 11:40	01/18/17 19:48	124-48-1	
Dichlorodifluoromethane	<21.0	ug/kg	275	21.0	1	01/18/17 11:40	01/18/17 19:48	75-71-8	
Ethylbenzene	<21.9	ug/kg	68.8	21.9	1	01/18/17 11:40	01/18/17 19:48	100-41-4	
Hexachloro-1,3-butadiene	<64.7	ug/kg	344	64.7	1	01/18/17 11:40	01/18/17 19:48	87-68-3	
Methyl-tert-butyl ether	<12.9	ug/kg	68.8	12.9	1	01/18/17 11:40	01/18/17 19:48	1634-04-4	
Methylene Chloride	<127	ug/kg	275	127	1	01/18/17 11:40	01/18/17 19:48	75-09-2	
Naphthalene	87.0J	ug/kg	275	16.6	1	01/18/17 11:40	01/18/17 19:48	91-20-3	
Styrene	<17.9	ug/kg	68.8	17.9	1	01/18/17 11:40	01/18/17 19:48	100-42-5	
Tetrachloroethene	<26.3	ug/kg	68.8	26.3	1	01/18/17 11:40	01/18/17 19:48	127-18-4	
Tetrahydrofuran	<341	ug/kg	2750	341	1	01/18/17 11:40	01/18/17 19:48	109-99-9	
Toluene	<21.9	ug/kg	68.8	21.9	1	01/18/17 11:40	01/18/17 19:48	108-88-3	
Trichloroethene	<19.7	ug/kg	68.8	19.7	1	01/18/17 11:40	01/18/17 19:48	79-01-6	
Trichlorofluoromethane	<69.1	ug/kg	275	69.1	1	01/18/17 11:40	01/18/17 19:48	75-69-4	
Vinyl acetate	<72.8	ug/kg	688	72.8	1	01/18/17 11:40	01/18/17 19:48	108-05-4	
Vinyl chloride	<8.8	ug/kg	27.5	8.8	1	01/18/17 11:40	01/18/17 19:48	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SSFD-3 **Lab ID: 10375909013** Collected: 01/11/17 14:30 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.6	ug/kg	68.8	25.6	1	01/18/17 11:40	01/18/17 19:48	156-59-2	
cis-1,3-Dichloropropene	<31.4	ug/kg	68.8	31.4	1	01/18/17 11:40	01/18/17 19:48	10061-01-5	
m&p-Xylene	<34.5	ug/kg	138	34.5	1	01/18/17 11:40	01/18/17 19:48	179601-23-1	
o-Xylene	<20.5	ug/kg	68.8	20.5	1	01/18/17 11:40	01/18/17 19:48	95-47-6	
trans-1,2-Dichloroethene	<33.2	ug/kg	68.8	33.2	1	01/18/17 11:40	01/18/17 19:48	156-60-5	
trans-1,3-Dichloropropene	<23.4	ug/kg	275	23.4	1	01/18/17 11:40	01/18/17 19:48	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/18/17 11:40	01/18/17 19:48	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/18/17 11:40	01/18/17 19:48	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1	01/18/17 11:40	01/18/17 19:48	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-10 **Lab ID: 10375909014** Collected: 01/11/17 15:00 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	15.4	%	0.10	0.10	1		01/13/17 16:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.6	ug/kg	61.2	25.6	1	01/18/17 11:40	01/18/17 16:18	71-55-6	
1,1,2,2-Tetrachloroethane	<13.6	ug/kg	61.2	13.6	1	01/18/17 11:40	01/18/17 16:18	79-34-5	
1,1,2-Trichloroethane	<13.2	ug/kg	61.2	13.2	1	01/18/17 11:40	01/18/17 16:18	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.1	ug/kg	245	44.1	1	01/18/17 11:40	01/18/17 16:18	76-13-1	
1,1-Dichloroethane	<23.7	ug/kg	61.2	23.7	1	01/18/17 11:40	01/18/17 16:18	75-34-3	
1,1-Dichloroethene	<15.5	ug/kg	61.2	15.5	1	01/18/17 11:40	01/18/17 16:18	75-35-4	
1,2,4-Trichlorobenzene	<18.9	ug/kg	61.2	18.9	1	01/18/17 11:40	01/18/17 16:18	120-82-1	
1,2,4-Trimethylbenzene	<13.5	ug/kg	61.2	13.5	1	01/18/17 11:40	01/18/17 16:18	95-63-6	
1,2-Dibromoethane (EDB)	<23.0	ug/kg	61.2	23.0	1	01/18/17 11:40	01/18/17 16:18	106-93-4	
1,2-Dichlorobenzene	<11.8	ug/kg	61.2	11.8	1	01/18/17 11:40	01/18/17 16:18	95-50-1	
1,2-Dichloroethane	<19.3	ug/kg	61.2	19.3	1	01/18/17 11:40	01/18/17 16:18	107-06-2	
1,3,5-Trimethylbenzene	<14.1	ug/kg	61.2	14.1	1	01/18/17 11:40	01/18/17 16:18	108-67-8	
1,3-Dichlorobenzene	<11.8	ug/kg	61.2	11.8	1	01/18/17 11:40	01/18/17 16:18	541-73-1	
1,4-Dichlorobenzene	<17.8	ug/kg	61.2	17.8	1	01/18/17 11:40	01/18/17 16:18	106-46-7	
2-Butanone (MEK)	<80.8	ug/kg	306	80.8	1	01/18/17 11:40	01/18/17 16:18	78-93-3	
2-Hexanone	<72.1	ug/kg	306	72.1	1	01/18/17 11:40	01/18/17 16:18	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.5	ug/kg	306	40.5	1	01/18/17 11:40	01/18/17 16:18	108-10-1	
Acetone	<402	ug/kg	1220	402	1	01/18/17 11:40	01/18/17 16:18	67-64-1	
Benzene	<5.3	ug/kg	24.5	5.3	1	01/18/17 11:40	01/18/17 16:18	71-43-2	
Bromodichloromethane	<17.1	ug/kg	61.2	17.1	1	01/18/17 11:40	01/18/17 16:18	75-27-4	
Bromoform	<52.8	ug/kg	245	52.8	1	01/18/17 11:40	01/18/17 16:18	75-25-2	
Bromomethane	<62.1	ug/kg	612	62.1	1	01/18/17 11:40	01/18/17 16:18	74-83-9	
Carbon tetrachloride	<19.2	ug/kg	61.2	19.2	1	01/18/17 11:40	01/18/17 16:18	56-23-5	
Chlorobenzene	<10.7	ug/kg	61.2	10.7	1	01/18/17 11:40	01/18/17 16:18	108-90-7	
Chloroethane	<96.7	ug/kg	612	96.7	1	01/18/17 11:40	01/18/17 16:18	75-00-3	
Chloroform	<29.7	ug/kg	61.2	29.7	1	01/18/17 11:40	01/18/17 16:18	67-66-3	
Chloromethane	<29.6	ug/kg	245	29.6	1	01/18/17 11:40	01/18/17 16:18	74-87-3	
Dibromochloromethane	<52.5	ug/kg	245	52.5	1	01/18/17 11:40	01/18/17 16:18	124-48-1	
Dichlorodifluoromethane	<18.7	ug/kg	245	18.7	1	01/18/17 11:40	01/18/17 16:18	75-71-8	
Ethylbenzene	<19.5	ug/kg	61.2	19.5	1	01/18/17 11:40	01/18/17 16:18	100-41-4	
Hexachloro-1,3-butadiene	<57.5	ug/kg	306	57.5	1	01/18/17 11:40	01/18/17 16:18	87-68-3	
Methyl-tert-butyl ether	<11.5	ug/kg	61.2	11.5	1	01/18/17 11:40	01/18/17 16:18	1634-04-4	
Methylene Chloride	<113	ug/kg	245	113	1	01/18/17 11:40	01/18/17 16:18	75-09-2	
Naphthalene	<14.8	ug/kg	245	14.8	1	01/18/17 11:40	01/18/17 16:18	91-20-3	
Styrene	<15.9	ug/kg	61.2	15.9	1	01/18/17 11:40	01/18/17 16:18	100-42-5	
Tetrachloroethene	<23.4	ug/kg	61.2	23.4	1	01/18/17 11:40	01/18/17 16:18	127-18-4	
Tetrahydrofuran	<304	ug/kg	2450	304	1	01/18/17 11:40	01/18/17 16:18	109-99-9	
Toluene	<19.5	ug/kg	61.2	19.5	1	01/18/17 11:40	01/18/17 16:18	108-88-3	
Trichloroethene	<17.5	ug/kg	61.2	17.5	1	01/18/17 11:40	01/18/17 16:18	79-01-6	
Trichlorofluoromethane	<61.5	ug/kg	245	61.5	1	01/18/17 11:40	01/18/17 16:18	75-69-4	
Vinyl acetate	<64.8	ug/kg	612	64.8	1	01/18/17 11:40	01/18/17 16:18	108-05-4	
Vinyl chloride	<7.9	ug/kg	24.5	7.9	1	01/18/17 11:40	01/18/17 16:18	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-10 **Lab ID: 10375909014** Collected: 01/11/17 15:00 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.8	ug/kg	61.2	22.8	1	01/18/17 11:40	01/18/17 16:18	156-59-2	
cis-1,3-Dichloropropene	<27.9	ug/kg	61.2	27.9	1	01/18/17 11:40	01/18/17 16:18	10061-01-5	
m&p-Xylene	<30.7	ug/kg	122	30.7	1	01/18/17 11:40	01/18/17 16:18	179601-23-1	
o-Xylene	<18.2	ug/kg	61.2	18.2	1	01/18/17 11:40	01/18/17 16:18	95-47-6	
trans-1,2-Dichloroethene	<29.5	ug/kg	61.2	29.5	1	01/18/17 11:40	01/18/17 16:18	156-60-5	
trans-1,3-Dichloropropene	<20.8	ug/kg	245	20.8	1	01/18/17 11:40	01/18/17 16:18	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/18/17 11:40	01/18/17 16:18	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/18/17 11:40	01/18/17 16:18	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/18/17 11:40	01/18/17 16:18	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: **SB37-SS-15** Lab ID: **10375909015** Collected: 01/11/17 15:10 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	14.7	%	0.10	0.10	1		01/13/17 16:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<24.4	ug/kg	58.3	24.4	1	01/18/17 11:40	01/18/17 16:34	71-55-6	
1,1,2,2-Tetrachloroethane	<12.9	ug/kg	58.3	12.9	1	01/18/17 11:40	01/18/17 16:34	79-34-5	
1,1,2-Trichloroethane	<12.6	ug/kg	58.3	12.6	1	01/18/17 11:40	01/18/17 16:34	79-00-5	
1,1,2-Trichlorotrifluoroethane	<41.9	ug/kg	233	41.9	1	01/18/17 11:40	01/18/17 16:34	76-13-1	
1,1-Dichloroethane	<22.6	ug/kg	58.3	22.6	1	01/18/17 11:40	01/18/17 16:34	75-34-3	
1,1-Dichloroethene	<14.8	ug/kg	58.3	14.8	1	01/18/17 11:40	01/18/17 16:34	75-35-4	
1,2,4-Trichlorobenzene	<17.9	ug/kg	58.3	17.9	1	01/18/17 11:40	01/18/17 16:34	120-82-1	
1,2,4-Trimethylbenzene	<12.8	ug/kg	58.3	12.8	1	01/18/17 11:40	01/18/17 16:34	95-63-6	
1,2-Dibromoethane (EDB)	<21.9	ug/kg	58.3	21.9	1	01/18/17 11:40	01/18/17 16:34	106-93-4	
1,2-Dichlorobenzene	<11.3	ug/kg	58.3	11.3	1	01/18/17 11:40	01/18/17 16:34	95-50-1	
1,2-Dichloroethane	<18.4	ug/kg	58.3	18.4	1	01/18/17 11:40	01/18/17 16:34	107-06-2	
1,3,5-Trimethylbenzene	<13.4	ug/kg	58.3	13.4	1	01/18/17 11:40	01/18/17 16:34	108-67-8	
1,3-Dichlorobenzene	<11.3	ug/kg	58.3	11.3	1	01/18/17 11:40	01/18/17 16:34	541-73-1	
1,4-Dichlorobenzene	<16.9	ug/kg	58.3	16.9	1	01/18/17 11:40	01/18/17 16:34	106-46-7	
2-Butanone (MEK)	<76.9	ug/kg	291	76.9	1	01/18/17 11:40	01/18/17 16:34	78-93-3	
2-Hexanone	<68.6	ug/kg	291	68.6	1	01/18/17 11:40	01/18/17 16:34	591-78-6	
4-Methyl-2-pentanone (MIBK)	<38.6	ug/kg	291	38.6	1	01/18/17 11:40	01/18/17 16:34	108-10-1	
Acetone	<382	ug/kg	1170	382	1	01/18/17 11:40	01/18/17 16:34	67-64-1	
Benzene	<5.0	ug/kg	23.3	5.0	1	01/18/17 11:40	01/18/17 16:34	71-43-2	
Bromodichloromethane	<16.3	ug/kg	58.3	16.3	1	01/18/17 11:40	01/18/17 16:34	75-27-4	
Bromoform	<50.2	ug/kg	233	50.2	1	01/18/17 11:40	01/18/17 16:34	75-25-2	
Bromomethane	<59.1	ug/kg	583	59.1	1	01/18/17 11:40	01/18/17 16:34	74-83-9	
Carbon tetrachloride	<18.3	ug/kg	58.3	18.3	1	01/18/17 11:40	01/18/17 16:34	56-23-5	
Chlorobenzene	<10.1	ug/kg	58.3	10.1	1	01/18/17 11:40	01/18/17 16:34	108-90-7	
Chloroethane	<92.0	ug/kg	583	92.0	1	01/18/17 11:40	01/18/17 16:34	75-00-3	
Chloroform	<28.3	ug/kg	58.3	28.3	1	01/18/17 11:40	01/18/17 16:34	67-66-3	
Chloromethane	<28.2	ug/kg	233	28.2	1	01/18/17 11:40	01/18/17 16:34	74-87-3	
Dibromochloromethane	<50.0	ug/kg	233	50.0	1	01/18/17 11:40	01/18/17 16:34	124-48-1	
Dichlorodifluoromethane	<17.8	ug/kg	233	17.8	1	01/18/17 11:40	01/18/17 16:34	75-71-8	
Ethylbenzene	<18.5	ug/kg	58.3	18.5	1	01/18/17 11:40	01/18/17 16:34	100-41-4	
Hexachloro-1,3-butadiene	<54.8	ug/kg	291	54.8	1	01/18/17 11:40	01/18/17 16:34	87-68-3	
Methyl-tert-butyl ether	<10.9	ug/kg	58.3	10.9	1	01/18/17 11:40	01/18/17 16:34	1634-04-4	
Methylene Chloride	<108	ug/kg	233	108	1	01/18/17 11:40	01/18/17 16:34	75-09-2	
Naphthalene	<14.1	ug/kg	233	14.1	1	01/18/17 11:40	01/18/17 16:34	91-20-3	
Styrene	<15.1	ug/kg	58.3	15.1	1	01/18/17 11:40	01/18/17 16:34	100-42-5	
Tetrachloroethene	<22.3	ug/kg	58.3	22.3	1	01/18/17 11:40	01/18/17 16:34	127-18-4	
Tetrahydrofuran	<289	ug/kg	2330	289	1	01/18/17 11:40	01/18/17 16:34	109-99-9	
Toluene	<18.5	ug/kg	58.3	18.5	1	01/18/17 11:40	01/18/17 16:34	108-88-3	
Trichloroethene	<16.7	ug/kg	58.3	16.7	1	01/18/17 11:40	01/18/17 16:34	79-01-6	
Trichlorofluoromethane	<58.5	ug/kg	233	58.5	1	01/18/17 11:40	01/18/17 16:34	75-69-4	
Vinyl acetate	<61.6	ug/kg	583	61.6	1	01/18/17 11:40	01/18/17 16:34	108-05-4	
Vinyl chloride	<7.5	ug/kg	23.3	7.5	1	01/18/17 11:40	01/18/17 16:34	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-15 **Lab ID: 10375909015** Collected: 01/11/17 15:10 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<21.7	ug/kg	58.3	21.7	1	01/18/17 11:40	01/18/17 16:34	156-59-2	
cis-1,3-Dichloropropene	<26.6	ug/kg	58.3	26.6	1	01/18/17 11:40	01/18/17 16:34	10061-01-5	
m&p-Xylene	<29.2	ug/kg	117	29.2	1	01/18/17 11:40	01/18/17 16:34	179601-23-1	
o-Xylene	<17.4	ug/kg	58.3	17.4	1	01/18/17 11:40	01/18/17 16:34	95-47-6	
trans-1,2-Dichloroethene	<28.1	ug/kg	58.3	28.1	1	01/18/17 11:40	01/18/17 16:34	156-60-5	
trans-1,3-Dichloropropene	<19.8	ug/kg	233	19.8	1	01/18/17 11:40	01/18/17 16:34	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/18/17 11:40	01/18/17 16:34	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1	01/18/17 11:40	01/18/17 16:34	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/18/17 11:40	01/18/17 16:34	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: **SB37-SS-20** Lab ID: **10375909016** Collected: 01/11/17 15:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	16.8	%	0.10	0.10	1		01/13/17 16:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<24.8	ug/kg	59.3	24.8	1	01/18/17 11:40	01/18/17 16:50	71-55-6	
1,1,2,2-Tetrachloroethane	<13.2	ug/kg	59.3	13.2	1	01/18/17 11:40	01/18/17 16:50	79-34-5	
1,1,2-Trichloroethane	<12.8	ug/kg	59.3	12.8	1	01/18/17 11:40	01/18/17 16:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<42.7	ug/kg	237	42.7	1	01/18/17 11:40	01/18/17 16:50	76-13-1	
1,1-Dichloroethane	<23.0	ug/kg	59.3	23.0	1	01/18/17 11:40	01/18/17 16:50	75-34-3	
1,1-Dichloroethene	<15.1	ug/kg	59.3	15.1	1	01/18/17 11:40	01/18/17 16:50	75-35-4	
1,2,4-Trichlorobenzene	<18.3	ug/kg	59.3	18.3	1	01/18/17 11:40	01/18/17 16:50	120-82-1	
1,2,4-Trimethylbenzene	<13.0	ug/kg	59.3	13.0	1	01/18/17 11:40	01/18/17 16:50	95-63-6	
1,2-Dibromoethane (EDB)	<22.3	ug/kg	59.3	22.3	1	01/18/17 11:40	01/18/17 16:50	106-93-4	
1,2-Dichlorobenzene	<11.5	ug/kg	59.3	11.5	1	01/18/17 11:40	01/18/17 16:50	95-50-1	
1,2-Dichloroethane	<18.7	ug/kg	59.3	18.7	1	01/18/17 11:40	01/18/17 16:50	107-06-2	
1,3,5-Trimethylbenzene	<13.6	ug/kg	59.3	13.6	1	01/18/17 11:40	01/18/17 16:50	108-67-8	
1,3-Dichlorobenzene	<11.5	ug/kg	59.3	11.5	1	01/18/17 11:40	01/18/17 16:50	541-73-1	
1,4-Dichlorobenzene	<17.2	ug/kg	59.3	17.2	1	01/18/17 11:40	01/18/17 16:50	106-46-7	
2-Butanone (MEK)	<78.3	ug/kg	297	78.3	1	01/18/17 11:40	01/18/17 16:50	78-93-3	
2-Hexanone	<69.9	ug/kg	297	69.9	1	01/18/17 11:40	01/18/17 16:50	591-78-6	
4-Methyl-2-pentanone (MIBK)	<39.3	ug/kg	297	39.3	1	01/18/17 11:40	01/18/17 16:50	108-10-1	
Acetone	<389	ug/kg	1190	389	1	01/18/17 11:40	01/18/17 16:50	67-64-1	
Benzene	<5.1	ug/kg	23.7	5.1	1	01/18/17 11:40	01/18/17 16:50	71-43-2	
Bromodichloromethane	<16.6	ug/kg	59.3	16.6	1	01/18/17 11:40	01/18/17 16:50	75-27-4	
Bromoform	<51.1	ug/kg	237	51.1	1	01/18/17 11:40	01/18/17 16:50	75-25-2	
Bromomethane	<60.1	ug/kg	593	60.1	1	01/18/17 11:40	01/18/17 16:50	74-83-9	
Carbon tetrachloride	<18.6	ug/kg	59.3	18.6	1	01/18/17 11:40	01/18/17 16:50	56-23-5	
Chlorobenzene	<10.3	ug/kg	59.3	10.3	1	01/18/17 11:40	01/18/17 16:50	108-90-7	
Chloroethane	<93.7	ug/kg	593	93.7	1	01/18/17 11:40	01/18/17 16:50	75-00-3	
Chloroform	<28.8	ug/kg	59.3	28.8	1	01/18/17 11:40	01/18/17 16:50	67-66-3	
Chloromethane	<28.7	ug/kg	237	28.7	1	01/18/17 11:40	01/18/17 16:50	74-87-3	
Dibromochloromethane	<50.9	ug/kg	237	50.9	1	01/18/17 11:40	01/18/17 16:50	124-48-1	
Dichlorodifluoromethane	<18.1	ug/kg	237	18.1	1	01/18/17 11:40	01/18/17 16:50	75-71-8	
Ethylbenzene	<18.9	ug/kg	59.3	18.9	1	01/18/17 11:40	01/18/17 16:50	100-41-4	
Hexachloro-1,3-butadiene	<55.7	ug/kg	297	55.7	1	01/18/17 11:40	01/18/17 16:50	87-68-3	
Methyl-tert-butyl ether	<11.1	ug/kg	59.3	11.1	1	01/18/17 11:40	01/18/17 16:50	1634-04-4	
Methylene Chloride	<110	ug/kg	237	110	1	01/18/17 11:40	01/18/17 16:50	75-09-2	
Naphthalene	<14.4	ug/kg	237	14.4	1	01/18/17 11:40	01/18/17 16:50	91-20-3	
Styrene	<15.4	ug/kg	59.3	15.4	1	01/18/17 11:40	01/18/17 16:50	100-42-5	
Tetrachloroethene	<22.7	ug/kg	59.3	22.7	1	01/18/17 11:40	01/18/17 16:50	127-18-4	
Tetrahydrofuran	<294	ug/kg	2370	294	1	01/18/17 11:40	01/18/17 16:50	109-99-9	
Toluene	<18.9	ug/kg	59.3	18.9	1	01/18/17 11:40	01/18/17 16:50	108-88-3	
Trichloroethene	<17.0	ug/kg	59.3	17.0	1	01/18/17 11:40	01/18/17 16:50	79-01-6	
Trichlorofluoromethane	<59.5	ug/kg	237	59.5	1	01/18/17 11:40	01/18/17 16:50	75-69-4	
Vinyl acetate	<62.7	ug/kg	593	62.7	1	01/18/17 11:40	01/18/17 16:50	108-05-4	
Vinyl chloride	<7.6	ug/kg	23.7	7.6	1	01/18/17 11:40	01/18/17 16:50	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-20 **Lab ID: 10375909016** Collected: 01/11/17 15:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.1	ug/kg	59.3	22.1	1	01/18/17 11:40	01/18/17 16:50	156-59-2	
cis-1,3-Dichloropropene	<27.0	ug/kg	59.3	27.0	1	01/18/17 11:40	01/18/17 16:50	10061-01-5	
m&p-Xylene	<29.8	ug/kg	119	29.8	1	01/18/17 11:40	01/18/17 16:50	179601-23-1	
o-Xylene	<17.7	ug/kg	59.3	17.7	1	01/18/17 11:40	01/18/17 16:50	95-47-6	
trans-1,2-Dichloroethene	<28.6	ug/kg	59.3	28.6	1	01/18/17 11:40	01/18/17 16:50	156-60-5	
trans-1,3-Dichloropropene	<20.2	ug/kg	237	20.2	1	01/18/17 11:40	01/18/17 16:50	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%	75-129		1	01/18/17 11:40	01/18/17 16:50	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/18/17 11:40	01/18/17 16:50	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/18/17 11:40	01/18/17 16:50	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-25 **Lab ID: 10375909017** Collected: 01/11/17 15:30 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	11.8	%	0.10	0.10	1		01/13/17 16:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.4	ug/kg	60.9	25.4	1	01/18/17 11:40	01/18/17 17:06	71-55-6	
1,1,2,2-Tetrachloroethane	<13.5	ug/kg	60.9	13.5	1	01/18/17 11:40	01/18/17 17:06	79-34-5	
1,1,2-Trichloroethane	<13.1	ug/kg	60.9	13.1	1	01/18/17 11:40	01/18/17 17:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<43.8	ug/kg	243	43.8	1	01/18/17 11:40	01/18/17 17:06	76-13-1	
1,1-Dichloroethane	<23.6	ug/kg	60.9	23.6	1	01/18/17 11:40	01/18/17 17:06	75-34-3	
1,1-Dichloroethene	<15.5	ug/kg	60.9	15.5	1	01/18/17 11:40	01/18/17 17:06	75-35-4	
1,2,4-Trichlorobenzene	<18.7	ug/kg	60.9	18.7	1	01/18/17 11:40	01/18/17 17:06	120-82-1	
1,2,4-Trimethylbenzene	<13.4	ug/kg	60.9	13.4	1	01/18/17 11:40	01/18/17 17:06	95-63-6	
1,2-Dibromoethane (EDB)	<22.9	ug/kg	60.9	22.9	1	01/18/17 11:40	01/18/17 17:06	106-93-4	
1,2-Dichlorobenzene	<11.8	ug/kg	60.9	11.8	1	01/18/17 11:40	01/18/17 17:06	95-50-1	
1,2-Dichloroethane	<19.2	ug/kg	60.9	19.2	1	01/18/17 11:40	01/18/17 17:06	107-06-2	
1,3,5-Trimethylbenzene	<14.0	ug/kg	60.9	14.0	1	01/18/17 11:40	01/18/17 17:06	108-67-8	
1,3-Dichlorobenzene	<11.8	ug/kg	60.9	11.8	1	01/18/17 11:40	01/18/17 17:06	541-73-1	
1,4-Dichlorobenzene	<17.7	ug/kg	60.9	17.7	1	01/18/17 11:40	01/18/17 17:06	106-46-7	
2-Butanone (MEK)	<80.3	ug/kg	304	80.3	1	01/18/17 11:40	01/18/17 17:06	78-93-3	
2-Hexanone	<71.7	ug/kg	304	71.7	1	01/18/17 11:40	01/18/17 17:06	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.3	ug/kg	304	40.3	1	01/18/17 11:40	01/18/17 17:06	108-10-1	
Acetone	<399	ug/kg	1220	399	1	01/18/17 11:40	01/18/17 17:06	67-64-1	
Benzene	<5.3	ug/kg	24.3	5.3	1	01/18/17 11:40	01/18/17 17:06	71-43-2	
Bromodichloromethane	<17.0	ug/kg	60.9	17.0	1	01/18/17 11:40	01/18/17 17:06	75-27-4	
Bromoform	<52.5	ug/kg	243	52.5	1	01/18/17 11:40	01/18/17 17:06	75-25-2	
Bromomethane	<61.7	ug/kg	609	61.7	1	01/18/17 11:40	01/18/17 17:06	74-83-9	
Carbon tetrachloride	<19.1	ug/kg	60.9	19.1	1	01/18/17 11:40	01/18/17 17:06	56-23-5	
Chlorobenzene	<10.6	ug/kg	60.9	10.6	1	01/18/17 11:40	01/18/17 17:06	108-90-7	
Chloroethane	<96.2	ug/kg	609	96.2	1	01/18/17 11:40	01/18/17 17:06	75-00-3	
Chloroform	<29.6	ug/kg	60.9	29.6	1	01/18/17 11:40	01/18/17 17:06	67-66-3	
Chloromethane	<29.5	ug/kg	243	29.5	1	01/18/17 11:40	01/18/17 17:06	74-87-3	
Dibromochloromethane	<52.2	ug/kg	243	52.2	1	01/18/17 11:40	01/18/17 17:06	124-48-1	
Dichlorodifluoromethane	<18.6	ug/kg	243	18.6	1	01/18/17 11:40	01/18/17 17:06	75-71-8	
Ethylbenzene	<19.4	ug/kg	60.9	19.4	1	01/18/17 11:40	01/18/17 17:06	100-41-4	
Hexachloro-1,3-butadiene	<57.2	ug/kg	304	57.2	1	01/18/17 11:40	01/18/17 17:06	87-68-3	
Methyl-tert-butyl ether	<11.4	ug/kg	60.9	11.4	1	01/18/17 11:40	01/18/17 17:06	1634-04-4	
Methylene Chloride	<113	ug/kg	243	113	1	01/18/17 11:40	01/18/17 17:06	75-09-2	
Naphthalene	<14.7	ug/kg	243	14.7	1	01/18/17 11:40	01/18/17 17:06	91-20-3	
Styrene	<15.8	ug/kg	60.9	15.8	1	01/18/17 11:40	01/18/17 17:06	100-42-5	
Tetrachloroethene	<23.3	ug/kg	60.9	23.3	1	01/18/17 11:40	01/18/17 17:06	127-18-4	
Tetrahydrofuran	<302	ug/kg	2430	302	1	01/18/17 11:40	01/18/17 17:06	109-99-9	
Toluene	<19.4	ug/kg	60.9	19.4	1	01/18/17 11:40	01/18/17 17:06	108-88-3	
Trichloroethene	<17.4	ug/kg	60.9	17.4	1	01/18/17 11:40	01/18/17 17:06	79-01-6	
Trichlorofluoromethane	<61.1	ug/kg	243	61.1	1	01/18/17 11:40	01/18/17 17:06	75-69-4	
Vinyl acetate	<64.4	ug/kg	609	64.4	1	01/18/17 11:40	01/18/17 17:06	108-05-4	
Vinyl chloride	<7.8	ug/kg	24.3	7.8	1	01/18/17 11:40	01/18/17 17:06	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-25 **Lab ID: 10375909017** Collected: 01/11/17 15:30 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.6	ug/kg	60.9	22.6	1	01/18/17 11:40	01/18/17 17:06	156-59-2	
cis-1,3-Dichloropropene	<27.8	ug/kg	60.9	27.8	1	01/18/17 11:40	01/18/17 17:06	10061-01-5	
m&p-Xylene	<30.6	ug/kg	122	30.6	1	01/18/17 11:40	01/18/17 17:06	179601-23-1	
o-Xylene	<18.1	ug/kg	60.9	18.1	1	01/18/17 11:40	01/18/17 17:06	95-47-6	
trans-1,2-Dichloroethene	<29.3	ug/kg	60.9	29.3	1	01/18/17 11:40	01/18/17 17:06	156-60-5	
trans-1,3-Dichloropropene	<20.7	ug/kg	243	20.7	1	01/18/17 11:40	01/18/17 17:06	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-129		1	01/18/17 11:40	01/18/17 17:06	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/18/17 11:40	01/18/17 17:06	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/18/17 11:40	01/18/17 17:06	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-30 **Lab ID: 10375909018** Collected: 01/11/17 15:40 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	23.8	%	0.10	0.10	1		01/13/17 16:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<29.0	ug/kg	69.4	29.0	1	01/18/17 11:40	01/18/17 20:04	71-55-6	
1,1,2,2-Tetrachloroethane	<15.4	ug/kg	69.4	15.4	1	01/18/17 11:40	01/18/17 20:04	79-34-5	
1,1,2-Trichloroethane	<15.0	ug/kg	69.4	15.0	1	01/18/17 11:40	01/18/17 20:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<50.0	ug/kg	278	50.0	1	01/18/17 11:40	01/18/17 20:04	76-13-1	
1,1-Dichloroethane	<26.9	ug/kg	69.4	26.9	1	01/18/17 11:40	01/18/17 20:04	75-34-3	
1,1-Dichloroethene	<17.6	ug/kg	69.4	17.6	1	01/18/17 11:40	01/18/17 20:04	75-35-4	
1,2,4-Trichlorobenzene	<21.4	ug/kg	69.4	21.4	1	01/18/17 11:40	01/18/17 20:04	120-82-1	
1,2,4-Trimethylbenzene	<15.3	ug/kg	69.4	15.3	1	01/18/17 11:40	01/18/17 20:04	95-63-6	
1,2-Dibromoethane (EDB)	<26.1	ug/kg	69.4	26.1	1	01/18/17 11:40	01/18/17 20:04	106-93-4	
1,2-Dichlorobenzene	<13.4	ug/kg	69.4	13.4	1	01/18/17 11:40	01/18/17 20:04	95-50-1	
1,2-Dichloroethane	<21.9	ug/kg	69.4	21.9	1	01/18/17 11:40	01/18/17 20:04	107-06-2	
1,3,5-Trimethylbenzene	<16.0	ug/kg	69.4	16.0	1	01/18/17 11:40	01/18/17 20:04	108-67-8	
1,3-Dichlorobenzene	<13.4	ug/kg	69.4	13.4	1	01/18/17 11:40	01/18/17 20:04	541-73-1	
1,4-Dichlorobenzene	<20.1	ug/kg	69.4	20.1	1	01/18/17 11:40	01/18/17 20:04	106-46-7	
2-Butanone (MEK)	<91.6	ug/kg	347	91.6	1	01/18/17 11:40	01/18/17 20:04	78-93-3	
2-Hexanone	<81.7	ug/kg	347	81.7	1	01/18/17 11:40	01/18/17 20:04	591-78-6	
4-Methyl-2-pentanone (MIBK)	<45.9	ug/kg	347	45.9	1	01/18/17 11:40	01/18/17 20:04	108-10-1	
Acetone	<455	ug/kg	1390	455	1	01/18/17 11:40	01/18/17 20:04	67-64-1	
Benzene	<6.0	ug/kg	27.8	6.0	1	01/18/17 11:40	01/18/17 20:04	71-43-2	
Bromodichloromethane	<19.4	ug/kg	69.4	19.4	1	01/18/17 11:40	01/18/17 20:04	75-27-4	
Bromoform	<59.8	ug/kg	278	59.8	1	01/18/17 11:40	01/18/17 20:04	75-25-2	
Bromomethane	<70.4	ug/kg	694	70.4	1	01/18/17 11:40	01/18/17 20:04	74-83-9	
Carbon tetrachloride	<21.8	ug/kg	69.4	21.8	1	01/18/17 11:40	01/18/17 20:04	56-23-5	
Chlorobenzene	<12.1	ug/kg	69.4	12.1	1	01/18/17 11:40	01/18/17 20:04	108-90-7	
Chloroethane	<110	ug/kg	694	110	1	01/18/17 11:40	01/18/17 20:04	75-00-3	
Chloroform	<33.7	ug/kg	69.4	33.7	1	01/18/17 11:40	01/18/17 20:04	67-66-3	
Chloromethane	<33.6	ug/kg	278	33.6	1	01/18/17 11:40	01/18/17 20:04	74-87-3	
Dibromochloromethane	<59.5	ug/kg	278	59.5	1	01/18/17 11:40	01/18/17 20:04	124-48-1	
Dichlorodifluoromethane	<21.2	ug/kg	278	21.2	1	01/18/17 11:40	01/18/17 20:04	75-71-8	
Ethylbenzene	<22.1	ug/kg	69.4	22.1	1	01/18/17 11:40	01/18/17 20:04	100-41-4	
Hexachloro-1,3-butadiene	<65.2	ug/kg	347	65.2	1	01/18/17 11:40	01/18/17 20:04	87-68-3	
Methyl-tert-butyl ether	<13.0	ug/kg	69.4	13.0	1	01/18/17 11:40	01/18/17 20:04	1634-04-4	
Methylene Chloride	<129	ug/kg	278	129	1	01/18/17 11:40	01/18/17 20:04	75-09-2	
Naphthalene	33.1J	ug/kg	278	16.8	1	01/18/17 11:40	01/18/17 20:04	91-20-3	
Styrene	<18.0	ug/kg	69.4	18.0	1	01/18/17 11:40	01/18/17 20:04	100-42-5	
Tetrachloroethene	<26.5	ug/kg	69.4	26.5	1	01/18/17 11:40	01/18/17 20:04	127-18-4	
Tetrahydrofuran	<344	ug/kg	2780	344	1	01/18/17 11:40	01/18/17 20:04	109-99-9	
Toluene	<22.1	ug/kg	69.4	22.1	1	01/18/17 11:40	01/18/17 20:04	108-88-3	
Trichloroethene	<19.8	ug/kg	69.4	19.8	1	01/18/17 11:40	01/18/17 20:04	79-01-6	
Trichlorofluoromethane	<69.7	ug/kg	278	69.7	1	01/18/17 11:40	01/18/17 20:04	75-69-4	
Vinyl acetate	<73.4	ug/kg	694	73.4	1	01/18/17 11:40	01/18/17 20:04	108-05-4	
Vinyl chloride	<8.9	ug/kg	27.8	8.9	1	01/18/17 11:40	01/18/17 20:04	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-30 **Lab ID: 10375909018** Collected: 01/11/17 15:40 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.8	ug/kg	69.4	25.8	1	01/18/17 11:40	01/18/17 20:04	156-59-2	
cis-1,3-Dichloropropene	<31.6	ug/kg	69.4	31.6	1	01/18/17 11:40	01/18/17 20:04	10061-01-5	
m&p-Xylene	<34.8	ug/kg	139	34.8	1	01/18/17 11:40	01/18/17 20:04	179601-23-1	
o-Xylene	<20.7	ug/kg	69.4	20.7	1	01/18/17 11:40	01/18/17 20:04	95-47-6	
trans-1,2-Dichloroethene	<33.4	ug/kg	69.4	33.4	1	01/18/17 11:40	01/18/17 20:04	156-60-5	
trans-1,3-Dichloropropene	<23.6	ug/kg	278	23.6	1	01/18/17 11:40	01/18/17 20:04	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/18/17 11:40	01/18/17 20:04	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/18/17 11:40	01/18/17 20:04	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/18/17 11:40	01/18/17 20:04	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-35 **Lab ID: 10375909019** Collected: 01/11/17 15:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	24.1	%	0.10	0.10	1		01/13/17 16:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.5	ug/kg	61.1	25.5	1	01/18/17 11:40	01/18/17 17:22	71-55-6	
1,1,2,2-Tetrachloroethane	<13.6	ug/kg	61.1	13.6	1	01/18/17 11:40	01/18/17 17:22	79-34-5	
1,1,2-Trichloroethane	<13.2	ug/kg	61.1	13.2	1	01/18/17 11:40	01/18/17 17:22	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.0	ug/kg	244	44.0	1	01/18/17 11:40	01/18/17 17:22	76-13-1	
1,1-Dichloroethane	<23.7	ug/kg	61.1	23.7	1	01/18/17 11:40	01/18/17 17:22	75-34-3	
1,1-Dichloroethene	<15.5	ug/kg	61.1	15.5	1	01/18/17 11:40	01/18/17 17:22	75-35-4	
1,2,4-Trichlorobenzene	<18.8	ug/kg	61.1	18.8	1	01/18/17 11:40	01/18/17 17:22	120-82-1	
1,2,4-Trimethylbenzene	<13.4	ug/kg	61.1	13.4	1	01/18/17 11:40	01/18/17 17:22	95-63-6	
1,2-Dibromoethane (EDB)	<23.0	ug/kg	61.1	23.0	1	01/18/17 11:40	01/18/17 17:22	106-93-4	
1,2-Dichlorobenzene	<11.8	ug/kg	61.1	11.8	1	01/18/17 11:40	01/18/17 17:22	95-50-1	
1,2-Dichloroethane	<19.3	ug/kg	61.1	19.3	1	01/18/17 11:40	01/18/17 17:22	107-06-2	
1,3,5-Trimethylbenzene	<14.0	ug/kg	61.1	14.0	1	01/18/17 11:40	01/18/17 17:22	108-67-8	
1,3-Dichlorobenzene	<11.8	ug/kg	61.1	11.8	1	01/18/17 11:40	01/18/17 17:22	541-73-1	
1,4-Dichlorobenzene	<17.7	ug/kg	61.1	17.7	1	01/18/17 11:40	01/18/17 17:22	106-46-7	
2-Butanone (MEK)	<80.6	ug/kg	305	80.6	1	01/18/17 11:40	01/18/17 17:22	78-93-3	
2-Hexanone	<72.0	ug/kg	305	72.0	1	01/18/17 11:40	01/18/17 17:22	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.4	ug/kg	305	40.4	1	01/18/17 11:40	01/18/17 17:22	108-10-1	
Acetone	<401	ug/kg	1220	401	1	01/18/17 11:40	01/18/17 17:22	67-64-1	
Benzene	<5.3	ug/kg	24.4	5.3	1	01/18/17 11:40	01/18/17 17:22	71-43-2	
Bromodichloromethane	<17.1	ug/kg	61.1	17.1	1	01/18/17 11:40	01/18/17 17:22	75-27-4	
Bromoform	<52.7	ug/kg	244	52.7	1	01/18/17 11:40	01/18/17 17:22	75-25-2	
Bromomethane	<61.9	ug/kg	611	61.9	1	01/18/17 11:40	01/18/17 17:22	74-83-9	
Carbon tetrachloride	<19.2	ug/kg	61.1	19.2	1	01/18/17 11:40	01/18/17 17:22	56-23-5	
Chlorobenzene	<10.6	ug/kg	61.1	10.6	1	01/18/17 11:40	01/18/17 17:22	108-90-7	
Chloroethane	<96.5	ug/kg	611	96.5	1	01/18/17 11:40	01/18/17 17:22	75-00-3	
Chloroform	<29.7	ug/kg	61.1	29.7	1	01/18/17 11:40	01/18/17 17:22	67-66-3	
Chloromethane	<29.6	ug/kg	244	29.6	1	01/18/17 11:40	01/18/17 17:22	74-87-3	
Dibromochloromethane	<52.4	ug/kg	244	52.4	1	01/18/17 11:40	01/18/17 17:22	124-48-1	
Dichlorodifluoromethane	<18.7	ug/kg	244	18.7	1	01/18/17 11:40	01/18/17 17:22	75-71-8	
Ethylbenzene	<19.4	ug/kg	61.1	19.4	1	01/18/17 11:40	01/18/17 17:22	100-41-4	
Hexachloro-1,3-butadiene	<57.4	ug/kg	305	57.4	1	01/18/17 11:40	01/18/17 17:22	87-68-3	
Methyl-tert-butyl ether	<11.4	ug/kg	61.1	11.4	1	01/18/17 11:40	01/18/17 17:22	1634-04-4	
Methylene Chloride	<113	ug/kg	244	113	1	01/18/17 11:40	01/18/17 17:22	75-09-2	
Naphthalene	<14.8	ug/kg	244	14.8	1	01/18/17 11:40	01/18/17 17:22	91-20-3	
Styrene	<15.9	ug/kg	61.1	15.9	1	01/18/17 11:40	01/18/17 17:22	100-42-5	
Tetrachloroethene	<23.3	ug/kg	61.1	23.3	1	01/18/17 11:40	01/18/17 17:22	127-18-4	
Tetrahydrofuran	<303	ug/kg	2440	303	1	01/18/17 11:40	01/18/17 17:22	109-99-9	
Toluene	<19.4	ug/kg	61.1	19.4	1	01/18/17 11:40	01/18/17 17:22	108-88-3	
Trichloroethene	<17.5	ug/kg	61.1	17.5	1	01/18/17 11:40	01/18/17 17:22	79-01-6	
Trichlorofluoromethane	<61.3	ug/kg	244	61.3	1	01/18/17 11:40	01/18/17 17:22	75-69-4	
Vinyl acetate	<64.6	ug/kg	611	64.6	1	01/18/17 11:40	01/18/17 17:22	108-05-4	
Vinyl chloride	<7.8	ug/kg	24.4	7.8	1	01/18/17 11:40	01/18/17 17:22	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-35 **Lab ID: 10375909019** Collected: 01/11/17 15:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.7	ug/kg	61.1	22.7	1	01/18/17 11:40	01/18/17 17:22	156-59-2	
cis-1,3-Dichloropropene	<27.9	ug/kg	61.1	27.9	1	01/18/17 11:40	01/18/17 17:22	10061-01-5	
m&p-Xylene	<30.7	ug/kg	122	30.7	1	01/18/17 11:40	01/18/17 17:22	179601-23-1	
o-Xylene	<18.2	ug/kg	61.1	18.2	1	01/18/17 11:40	01/18/17 17:22	95-47-6	
trans-1,2-Dichloroethene	<29.4	ug/kg	61.1	29.4	1	01/18/17 11:40	01/18/17 17:22	156-60-5	
trans-1,3-Dichloropropene	<20.8	ug/kg	244	20.8	1	01/18/17 11:40	01/18/17 17:22	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-129		1	01/18/17 11:40	01/18/17 17:22	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/18/17 11:40	01/18/17 17:22	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/18/17 11:40	01/18/17 17:22	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-40 **Lab ID: 10375909020** Collected: 01/12/17 08:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	27.9	%	0.10	0.10	1		01/13/17 16:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.5	ug/kg	75.3	31.5	1	01/18/17 11:40	01/18/17 17:38	71-55-6	
1,1,2,2-Tetrachloroethane	<16.7	ug/kg	75.3	16.7	1	01/18/17 11:40	01/18/17 17:38	79-34-5	
1,1,2-Trichloroethane	<16.3	ug/kg	75.3	16.3	1	01/18/17 11:40	01/18/17 17:38	79-00-5	
1,1,2-Trichlorotrifluoroethane	<54.2	ug/kg	301	54.2	1	01/18/17 11:40	01/18/17 17:38	76-13-1	
1,1-Dichloroethane	<29.2	ug/kg	75.3	29.2	1	01/18/17 11:40	01/18/17 17:38	75-34-3	
1,1-Dichloroethene	<19.1	ug/kg	75.3	19.1	1	01/18/17 11:40	01/18/17 17:38	75-35-4	
1,2,4-Trichlorobenzene	<23.2	ug/kg	75.3	23.2	1	01/18/17 11:40	01/18/17 17:38	120-82-1	
1,2,4-Trimethylbenzene	<16.6	ug/kg	75.3	16.6	1	01/18/17 11:40	01/18/17 17:38	95-63-6	
1,2-Dibromoethane (EDB)	<28.3	ug/kg	75.3	28.3	1	01/18/17 11:40	01/18/17 17:38	106-93-4	
1,2-Dichlorobenzene	<14.5	ug/kg	75.3	14.5	1	01/18/17 11:40	01/18/17 17:38	95-50-1	
1,2-Dichloroethane	<23.8	ug/kg	75.3	23.8	1	01/18/17 11:40	01/18/17 17:38	107-06-2	
1,3,5-Trimethylbenzene	<17.3	ug/kg	75.3	17.3	1	01/18/17 11:40	01/18/17 17:38	108-67-8	
1,3-Dichlorobenzene	<14.5	ug/kg	75.3	14.5	1	01/18/17 11:40	01/18/17 17:38	541-73-1	
1,4-Dichlorobenzene	<21.8	ug/kg	75.3	21.8	1	01/18/17 11:40	01/18/17 17:38	106-46-7	
2-Butanone (MEK)	<99.3	ug/kg	376	99.3	1	01/18/17 11:40	01/18/17 17:38	78-93-3	
2-Hexanone	<88.7	ug/kg	376	88.7	1	01/18/17 11:40	01/18/17 17:38	591-78-6	
4-Methyl-2-pentanone (MIBK)	<49.8	ug/kg	376	49.8	1	01/18/17 11:40	01/18/17 17:38	108-10-1	
Acetone	<494	ug/kg	1510	494	1	01/18/17 11:40	01/18/17 17:38	67-64-1	
Benzene	<6.5	ug/kg	30.1	6.5	1	01/18/17 11:40	01/18/17 17:38	71-43-2	
Bromodichloromethane	<21.1	ug/kg	75.3	21.1	1	01/18/17 11:40	01/18/17 17:38	75-27-4	
Bromoform	<64.9	ug/kg	301	64.9	1	01/18/17 11:40	01/18/17 17:38	75-25-2	
Bromomethane	<76.3	ug/kg	753	76.3	1	01/18/17 11:40	01/18/17 17:38	74-83-9	
Carbon tetrachloride	<23.6	ug/kg	75.3	23.6	1	01/18/17 11:40	01/18/17 17:38	56-23-5	
Chlorobenzene	<13.1	ug/kg	75.3	13.1	1	01/18/17 11:40	01/18/17 17:38	108-90-7	
Chloroethane	<119	ug/kg	753	119	1	01/18/17 11:40	01/18/17 17:38	75-00-3	
Chloroform	<36.6	ug/kg	75.3	36.6	1	01/18/17 11:40	01/18/17 17:38	67-66-3	
Chloromethane	<36.4	ug/kg	301	36.4	1	01/18/17 11:40	01/18/17 17:38	74-87-3	
Dibromochloromethane	<64.6	ug/kg	301	64.6	1	01/18/17 11:40	01/18/17 17:38	124-48-1	
Dichlorodifluoromethane	<23.0	ug/kg	301	23.0	1	01/18/17 11:40	01/18/17 17:38	75-71-8	
Ethylbenzene	<23.9	ug/kg	75.3	23.9	1	01/18/17 11:40	01/18/17 17:38	100-41-4	
Hexachloro-1,3-butadiene	<70.7	ug/kg	376	70.7	1	01/18/17 11:40	01/18/17 17:38	87-68-3	
Methyl-tert-butyl ether	<14.1	ug/kg	75.3	14.1	1	01/18/17 11:40	01/18/17 17:38	1634-04-4	
Methylene Chloride	<139	ug/kg	301	139	1	01/18/17 11:40	01/18/17 17:38	75-09-2	
Naphthalene	<18.2	ug/kg	301	18.2	1	01/18/17 11:40	01/18/17 17:38	91-20-3	
Styrene	<19.6	ug/kg	75.3	19.6	1	01/18/17 11:40	01/18/17 17:38	100-42-5	
Tetrachloroethene	<28.7	ug/kg	75.3	28.7	1	01/18/17 11:40	01/18/17 17:38	127-18-4	
Tetrahydrofuran	<373	ug/kg	3010	373	1	01/18/17 11:40	01/18/17 17:38	109-99-9	
Toluene	<23.9	ug/kg	75.3	23.9	1	01/18/17 11:40	01/18/17 17:38	108-88-3	
Trichloroethene	<21.5	ug/kg	75.3	21.5	1	01/18/17 11:40	01/18/17 17:38	79-01-6	
Trichlorofluoromethane	<75.6	ug/kg	301	75.6	1	01/18/17 11:40	01/18/17 17:38	75-69-4	
Vinyl acetate	<79.6	ug/kg	753	79.6	1	01/18/17 11:40	01/18/17 17:38	108-05-4	
Vinyl chloride	<9.7	ug/kg	30.1	9.7	1	01/18/17 11:40	01/18/17 17:38	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-40 **Lab ID: 10375909020** Collected: 01/12/17 08:50 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<28.0	ug/kg	75.3	28.0	1	01/18/17 11:40	01/18/17 17:38	156-59-2	
cis-1,3-Dichloropropene	<34.3	ug/kg	75.3	34.3	1	01/18/17 11:40	01/18/17 17:38	10061-01-5	
m&p-Xylene	<37.8	ug/kg	151	37.8	1	01/18/17 11:40	01/18/17 17:38	179601-23-1	
o-Xylene	<22.4	ug/kg	75.3	22.4	1	01/18/17 11:40	01/18/17 17:38	95-47-6	
trans-1,2-Dichloroethene	<36.3	ug/kg	75.3	36.3	1	01/18/17 11:40	01/18/17 17:38	156-60-5	
trans-1,3-Dichloropropene	<25.6	ug/kg	301	25.6	1	01/18/17 11:40	01/18/17 17:38	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/18/17 11:40	01/18/17 17:38	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/18/17 11:40	01/18/17 17:38	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/18/17 11:40	01/18/17 17:38	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-45 **Lab ID: 10375909021** Collected: 01/12/17 09:00 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.7	%	0.10	0.10	1		01/13/17 17:37		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.9	ug/kg	76.2	31.9	1	01/18/17 11:40	01/18/17 17:55	71-55-6	
1,1,2,2-Tetrachloroethane	<16.9	ug/kg	76.2	16.9	1	01/18/17 11:40	01/18/17 17:55	79-34-5	
1,1,2-Trichloroethane	<16.5	ug/kg	76.2	16.5	1	01/18/17 11:40	01/18/17 17:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<54.9	ug/kg	305	54.9	1	01/18/17 11:40	01/18/17 17:55	76-13-1	
1,1-Dichloroethane	<29.6	ug/kg	76.2	29.6	1	01/18/17 11:40	01/18/17 17:55	75-34-3	
1,1-Dichloroethene	<19.4	ug/kg	76.2	19.4	1	01/18/17 11:40	01/18/17 17:55	75-35-4	
1,2,4-Trichlorobenzene	<23.5	ug/kg	76.2	23.5	1	01/18/17 11:40	01/18/17 17:55	120-82-1	
1,2,4-Trimethylbenzene	<16.8	ug/kg	76.2	16.8	1	01/18/17 11:40	01/18/17 17:55	95-63-6	
1,2-Dibromoethane (EDB)	<28.7	ug/kg	76.2	28.7	1	01/18/17 11:40	01/18/17 17:55	106-93-4	
1,2-Dichlorobenzene	<14.7	ug/kg	76.2	14.7	1	01/18/17 11:40	01/18/17 17:55	95-50-1	
1,2-Dichloroethane	<24.1	ug/kg	76.2	24.1	1	01/18/17 11:40	01/18/17 17:55	107-06-2	
1,3,5-Trimethylbenzene	<17.5	ug/kg	76.2	17.5	1	01/18/17 11:40	01/18/17 17:55	108-67-8	
1,3-Dichlorobenzene	<14.7	ug/kg	76.2	14.7	1	01/18/17 11:40	01/18/17 17:55	541-73-1	
1,4-Dichlorobenzene	<22.1	ug/kg	76.2	22.1	1	01/18/17 11:40	01/18/17 17:55	106-46-7	
2-Butanone (MEK)	<101	ug/kg	381	101	1	01/18/17 11:40	01/18/17 17:55	78-93-3	
2-Hexanone	<89.8	ug/kg	381	89.8	1	01/18/17 11:40	01/18/17 17:55	591-78-6	
4-Methyl-2-pentanone (MIBK)	<50.5	ug/kg	381	50.5	1	01/18/17 11:40	01/18/17 17:55	108-10-1	
Acetone	<500	ug/kg	1520	500	1	01/18/17 11:40	01/18/17 17:55	67-64-1	
Benzene	<6.6	ug/kg	30.5	6.6	1	01/18/17 11:40	01/18/17 17:55	71-43-2	
Bromodichloromethane	<21.3	ug/kg	76.2	21.3	1	01/18/17 11:40	01/18/17 17:55	75-27-4	
Bromoform	<65.7	ug/kg	305	65.7	1	01/18/17 11:40	01/18/17 17:55	75-25-2	
Bromomethane	<77.3	ug/kg	762	77.3	1	01/18/17 11:40	01/18/17 17:55	74-83-9	
Carbon tetrachloride	<23.9	ug/kg	76.2	23.9	1	01/18/17 11:40	01/18/17 17:55	56-23-5	
Chlorobenzene	<13.3	ug/kg	76.2	13.3	1	01/18/17 11:40	01/18/17 17:55	108-90-7	
Chloroethane	<120	ug/kg	762	120	1	01/18/17 11:40	01/18/17 17:55	75-00-3	
Chloroform	<37.0	ug/kg	76.2	37.0	1	01/18/17 11:40	01/18/17 17:55	67-66-3	
Chloromethane	<36.9	ug/kg	305	36.9	1	01/18/17 11:40	01/18/17 17:55	74-87-3	
Dibromochloromethane	<65.4	ug/kg	305	65.4	1	01/18/17 11:40	01/18/17 17:55	124-48-1	
Dichlorodifluoromethane	<23.3	ug/kg	305	23.3	1	01/18/17 11:40	01/18/17 17:55	75-71-8	
Ethylbenzene	<24.2	ug/kg	76.2	24.2	1	01/18/17 11:40	01/18/17 17:55	100-41-4	
Hexachloro-1,3-butadiene	<71.7	ug/kg	381	71.7	1	01/18/17 11:40	01/18/17 17:55	87-68-3	
Methyl-tert-butyl ether	<14.3	ug/kg	76.2	14.3	1	01/18/17 11:40	01/18/17 17:55	1634-04-4	
Methylene Chloride	<141	ug/kg	305	141	1	01/18/17 11:40	01/18/17 17:55	75-09-2	
Naphthalene	<18.4	ug/kg	305	18.4	1	01/18/17 11:40	01/18/17 17:55	91-20-3	
Styrene	<19.8	ug/kg	76.2	19.8	1	01/18/17 11:40	01/18/17 17:55	100-42-5	
Tetrachloroethene	<29.1	ug/kg	76.2	29.1	1	01/18/17 11:40	01/18/17 17:55	127-18-4	
Tetrahydrofuran	<378	ug/kg	3050	378	1	01/18/17 11:40	01/18/17 17:55	109-99-9	
Toluene	<24.2	ug/kg	76.2	24.2	1	01/18/17 11:40	01/18/17 17:55	108-88-3	
Trichloroethene	<21.8	ug/kg	76.2	21.8	1	01/18/17 11:40	01/18/17 17:55	79-01-6	
Trichlorofluoromethane	<76.5	ug/kg	305	76.5	1	01/18/17 11:40	01/18/17 17:55	75-69-4	
Vinyl acetate	<80.6	ug/kg	762	80.6	1	01/18/17 11:40	01/18/17 17:55	108-05-4	
Vinyl chloride	<9.8	ug/kg	30.5	9.8	1	01/18/17 11:40	01/18/17 17:55	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-45 **Lab ID: 10375909021** Collected: 01/12/17 09:00 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<28.4	ug/kg	76.2	28.4	1	01/18/17 11:40	01/18/17 17:55	156-59-2	
cis-1,3-Dichloropropene	<34.8	ug/kg	76.2	34.8	1	01/18/17 11:40	01/18/17 17:55	10061-01-5	
m&p-Xylene	<38.3	ug/kg	152	38.3	1	01/18/17 11:40	01/18/17 17:55	179601-23-1	
o-Xylene	<22.7	ug/kg	76.2	22.7	1	01/18/17 11:40	01/18/17 17:55	95-47-6	
trans-1,2-Dichloroethene	<36.7	ug/kg	76.2	36.7	1	01/18/17 11:40	01/18/17 17:55	156-60-5	
trans-1,3-Dichloropropene	<25.9	ug/kg	305	25.9	1	01/18/17 11:40	01/18/17 17:55	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/18/17 11:40	01/18/17 17:55	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/18/17 11:40	01/18/17 17:55	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1	01/18/17 11:40	01/18/17 17:55	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: **SB37-SS-50** Lab ID: **10375909022** Collected: 01/12/17 09:10 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	33.8	%	0.10	0.10	1		01/13/17 17:38		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<33.9	ug/kg	81.1	33.9	1	01/18/17 11:40	01/18/17 18:11	71-55-6	
1,1,2,2-Tetrachloroethane	<18.0	ug/kg	81.1	18.0	1	01/18/17 11:40	01/18/17 18:11	79-34-5	
1,1,2-Trichloroethane	<17.5	ug/kg	81.1	17.5	1	01/18/17 11:40	01/18/17 18:11	79-00-5	
1,1,2-Trichlorotrifluoroethane	<58.4	ug/kg	324	58.4	1	01/18/17 11:40	01/18/17 18:11	76-13-1	
1,1-Dichloroethane	<31.4	ug/kg	81.1	31.4	1	01/18/17 11:40	01/18/17 18:11	75-34-3	
1,1-Dichloroethene	<20.6	ug/kg	81.1	20.6	1	01/18/17 11:40	01/18/17 18:11	75-35-4	
1,2,4-Trichlorobenzene	<25.0	ug/kg	81.1	25.0	1	01/18/17 11:40	01/18/17 18:11	120-82-1	
1,2,4-Trimethylbenzene	<17.8	ug/kg	81.1	17.8	1	01/18/17 11:40	01/18/17 18:11	95-63-6	
1,2-Dibromoethane (EDB)	<30.5	ug/kg	81.1	30.5	1	01/18/17 11:40	01/18/17 18:11	106-93-4	
1,2-Dichlorobenzene	<15.7	ug/kg	81.1	15.7	1	01/18/17 11:40	01/18/17 18:11	95-50-1	
1,2-Dichloroethane	<25.6	ug/kg	81.1	25.6	1	01/18/17 11:40	01/18/17 18:11	107-06-2	
1,3,5-Trimethylbenzene	<18.6	ug/kg	81.1	18.6	1	01/18/17 11:40	01/18/17 18:11	108-67-8	
1,3-Dichlorobenzene	<15.7	ug/kg	81.1	15.7	1	01/18/17 11:40	01/18/17 18:11	541-73-1	
1,4-Dichlorobenzene	<23.5	ug/kg	81.1	23.5	1	01/18/17 11:40	01/18/17 18:11	106-46-7	
2-Butanone (MEK)	<107	ug/kg	405	107	1	01/18/17 11:40	01/18/17 18:11	78-93-3	
2-Hexanone	<95.5	ug/kg	405	95.5	1	01/18/17 11:40	01/18/17 18:11	591-78-6	
4-Methyl-2-pentanone (MIBK)	<53.7	ug/kg	405	53.7	1	01/18/17 11:40	01/18/17 18:11	108-10-1	
Acetone	<532	ug/kg	1620	532	1	01/18/17 11:40	01/18/17 18:11	67-64-1	
Benzene	<7.0	ug/kg	32.4	7.0	1	01/18/17 11:40	01/18/17 18:11	71-43-2	
Bromodichloromethane	<22.7	ug/kg	81.1	22.7	1	01/18/17 11:40	01/18/17 18:11	75-27-4	
Bromoform	<69.9	ug/kg	324	69.9	1	01/18/17 11:40	01/18/17 18:11	75-25-2	
Bromomethane	<82.2	ug/kg	811	82.2	1	01/18/17 11:40	01/18/17 18:11	74-83-9	
Carbon tetrachloride	<25.4	ug/kg	81.1	25.4	1	01/18/17 11:40	01/18/17 18:11	56-23-5	
Chlorobenzene	<14.1	ug/kg	81.1	14.1	1	01/18/17 11:40	01/18/17 18:11	108-90-7	
Chloroethane	<128	ug/kg	811	128	1	01/18/17 11:40	01/18/17 18:11	75-00-3	
Chloroform	<39.4	ug/kg	81.1	39.4	1	01/18/17 11:40	01/18/17 18:11	67-66-3	
Chloromethane	<39.2	ug/kg	324	39.2	1	01/18/17 11:40	01/18/17 18:11	74-87-3	
Dibromochloromethane	<69.5	ug/kg	324	69.5	1	01/18/17 11:40	01/18/17 18:11	124-48-1	
Dichlorodifluoromethane	<24.8	ug/kg	324	24.8	1	01/18/17 11:40	01/18/17 18:11	75-71-8	
Ethylbenzene	<25.8	ug/kg	81.1	25.8	1	01/18/17 11:40	01/18/17 18:11	100-41-4	
Hexachloro-1,3-butadiene	<76.2	ug/kg	405	76.2	1	01/18/17 11:40	01/18/17 18:11	87-68-3	
Methyl-tert-butyl ether	<15.2	ug/kg	81.1	15.2	1	01/18/17 11:40	01/18/17 18:11	1634-04-4	
Methylene Chloride	<150	ug/kg	324	150	1	01/18/17 11:40	01/18/17 18:11	75-09-2	
Naphthalene	<19.6	ug/kg	324	19.6	1	01/18/17 11:40	01/18/17 18:11	91-20-3	
Styrene	<21.1	ug/kg	81.1	21.1	1	01/18/17 11:40	01/18/17 18:11	100-42-5	
Tetrachloroethene	<31.0	ug/kg	81.1	31.0	1	01/18/17 11:40	01/18/17 18:11	127-18-4	
Tetrahydrofuran	<402	ug/kg	3240	402	1	01/18/17 11:40	01/18/17 18:11	109-99-9	
Toluene	<25.8	ug/kg	81.1	25.8	1	01/18/17 11:40	01/18/17 18:11	108-88-3	
Trichloroethene	<23.2	ug/kg	81.1	23.2	1	01/18/17 11:40	01/18/17 18:11	79-01-6	
Trichlorofluoromethane	<81.4	ug/kg	324	81.4	1	01/18/17 11:40	01/18/17 18:11	75-69-4	
Vinyl acetate	<85.8	ug/kg	811	85.8	1	01/18/17 11:40	01/18/17 18:11	108-05-4	
Vinyl chloride	<10.4	ug/kg	32.4	10.4	1	01/18/17 11:40	01/18/17 18:11	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-50 **Lab ID: 10375909022** Collected: 01/12/17 09:10 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<30.2	ug/kg	81.1	30.2	1	01/18/17 11:40	01/18/17 18:11	156-59-2	
cis-1,3-Dichloropropene	<37.0	ug/kg	81.1	37.0	1	01/18/17 11:40	01/18/17 18:11	10061-01-5	
m&p-Xylene	<40.7	ug/kg	162	40.7	1	01/18/17 11:40	01/18/17 18:11	179601-23-1	
o-Xylene	<24.2	ug/kg	81.1	24.2	1	01/18/17 11:40	01/18/17 18:11	95-47-6	
trans-1,2-Dichloroethene	<39.1	ug/kg	81.1	39.1	1	01/18/17 11:40	01/18/17 18:11	156-60-5	
trans-1,3-Dichloropropene	<27.6	ug/kg	324	27.6	1	01/18/17 11:40	01/18/17 18:11	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-129		1	01/18/17 11:40	01/18/17 18:11	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/18/17 11:40	01/18/17 18:11	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/18/17 11:40	01/18/17 18:11	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: **SB37-SS-55** Lab ID: **10375909023** Collected: 01/12/17 09:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	35.6	%	0.10	0.10	1		01/13/17 17:38		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<35.1	ug/kg	84.0	35.1	1	01/18/17 11:40	01/18/17 18:27	71-55-6	
1,1,2,2-Tetrachloroethane	<18.7	ug/kg	84.0	18.7	1	01/18/17 11:40	01/18/17 18:27	79-34-5	
1,1,2-Trichloroethane	<18.2	ug/kg	84.0	18.2	1	01/18/17 11:40	01/18/17 18:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	<60.5	ug/kg	336	60.5	1	01/18/17 11:40	01/18/17 18:27	76-13-1	
1,1-Dichloroethane	<32.6	ug/kg	84.0	32.6	1	01/18/17 11:40	01/18/17 18:27	75-34-3	
1,1-Dichloroethene	<21.3	ug/kg	84.0	21.3	1	01/18/17 11:40	01/18/17 18:27	75-35-4	
1,2,4-Trichlorobenzene	<25.9	ug/kg	84.0	25.9	1	01/18/17 11:40	01/18/17 18:27	120-82-1	
1,2,4-Trimethylbenzene	<18.5	ug/kg	84.0	18.5	1	01/18/17 11:40	01/18/17 18:27	95-63-6	
1,2-Dibromoethane (EDB)	<31.6	ug/kg	84.0	31.6	1	01/18/17 11:40	01/18/17 18:27	106-93-4	
1,2-Dichlorobenzene	<16.2	ug/kg	84.0	16.2	1	01/18/17 11:40	01/18/17 18:27	95-50-1	
1,2-Dichloroethane	<26.6	ug/kg	84.0	26.6	1	01/18/17 11:40	01/18/17 18:27	107-06-2	
1,3,5-Trimethylbenzene	<19.3	ug/kg	84.0	19.3	1	01/18/17 11:40	01/18/17 18:27	108-67-8	
1,3-Dichlorobenzene	<16.2	ug/kg	84.0	16.2	1	01/18/17 11:40	01/18/17 18:27	541-73-1	
1,4-Dichlorobenzene	<24.4	ug/kg	84.0	24.4	1	01/18/17 11:40	01/18/17 18:27	106-46-7	
2-Butanone (MEK)	<111	ug/kg	420	111	1	01/18/17 11:40	01/18/17 18:27	78-93-3	
2-Hexanone	<99.0	ug/kg	420	99.0	1	01/18/17 11:40	01/18/17 18:27	591-78-6	
4-Methyl-2-pentanone (MIBK)	<55.6	ug/kg	420	55.6	1	01/18/17 11:40	01/18/17 18:27	108-10-1	
Acetone	<551	ug/kg	1680	551	1	01/18/17 11:40	01/18/17 18:27	67-64-1	
Benzene	<7.3	ug/kg	33.6	7.3	1	01/18/17 11:40	01/18/17 18:27	71-43-2	
Bromodichloromethane	<23.5	ug/kg	84.0	23.5	1	01/18/17 11:40	01/18/17 18:27	75-27-4	
Bromoform	<72.4	ug/kg	336	72.4	1	01/18/17 11:40	01/18/17 18:27	75-25-2	
Bromomethane	<85.2	ug/kg	840	85.2	1	01/18/17 11:40	01/18/17 18:27	74-83-9	
Carbon tetrachloride	<26.4	ug/kg	84.0	26.4	1	01/18/17 11:40	01/18/17 18:27	56-23-5	
Chlorobenzene	<14.6	ug/kg	84.0	14.6	1	01/18/17 11:40	01/18/17 18:27	108-90-7	
Chloroethane	<133	ug/kg	840	133	1	01/18/17 11:40	01/18/17 18:27	75-00-3	
Chloroform	<40.8	ug/kg	84.0	40.8	1	01/18/17 11:40	01/18/17 18:27	67-66-3	
Chloromethane	<40.7	ug/kg	336	40.7	1	01/18/17 11:40	01/18/17 18:27	74-87-3	
Dibromochloromethane	<72.1	ug/kg	336	72.1	1	01/18/17 11:40	01/18/17 18:27	124-48-1	
Dichlorodifluoromethane	<25.7	ug/kg	336	25.7	1	01/18/17 11:40	01/18/17 18:27	75-71-8	
Ethylbenzene	<26.7	ug/kg	84.0	26.7	1	01/18/17 11:40	01/18/17 18:27	100-41-4	
Hexachloro-1,3-butadiene	<79.0	ug/kg	420	79.0	1	01/18/17 11:40	01/18/17 18:27	87-68-3	
Methyl-tert-butyl ether	<15.7	ug/kg	84.0	15.7	1	01/18/17 11:40	01/18/17 18:27	1634-04-4	
Methylene Chloride	<156	ug/kg	336	156	1	01/18/17 11:40	01/18/17 18:27	75-09-2	
Naphthalene	<20.3	ug/kg	336	20.3	1	01/18/17 11:40	01/18/17 18:27	91-20-3	
Styrene	<21.9	ug/kg	84.0	21.9	1	01/18/17 11:40	01/18/17 18:27	100-42-5	
Tetrachloroethene	<32.1	ug/kg	84.0	32.1	1	01/18/17 11:40	01/18/17 18:27	127-18-4	
Tetrahydrofuran	<417	ug/kg	3360	417	1	01/18/17 11:40	01/18/17 18:27	109-99-9	
Toluene	<26.7	ug/kg	84.0	26.7	1	01/18/17 11:40	01/18/17 18:27	108-88-3	
Trichloroethene	<24.0	ug/kg	84.0	24.0	1	01/18/17 11:40	01/18/17 18:27	79-01-6	
Trichlorofluoromethane	<84.4	ug/kg	336	84.4	1	01/18/17 11:40	01/18/17 18:27	75-69-4	
Vinyl acetate	<88.9	ug/kg	840	88.9	1	01/18/17 11:40	01/18/17 18:27	108-05-4	
Vinyl chloride	<10.8	ug/kg	33.6	10.8	1	01/18/17 11:40	01/18/17 18:27	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Sample: SB37-SS-55 **Lab ID: 10375909023** Collected: 01/12/17 09:20 Received: 01/13/17 10:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<31.3	ug/kg	84.0	31.3	1	01/18/17 11:40	01/18/17 18:27	156-59-2	
cis-1,3-Dichloropropene	<38.3	ug/kg	84.0	38.3	1	01/18/17 11:40	01/18/17 18:27	10061-01-5	
m&p-Xylene	<42.2	ug/kg	168	42.2	1	01/18/17 11:40	01/18/17 18:27	179601-23-1	
o-Xylene	<25.0	ug/kg	84.0	25.0	1	01/18/17 11:40	01/18/17 18:27	95-47-6	
trans-1,2-Dichloroethene	<40.5	ug/kg	84.0	40.5	1	01/18/17 11:40	01/18/17 18:27	156-60-5	
trans-1,3-Dichloropropene	<28.6	ug/kg	336	28.6	1	01/18/17 11:40	01/18/17 18:27	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/18/17 11:40	01/18/17 18:27	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	01/18/17 11:40	01/18/17 18:27	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1	01/18/17 11:40	01/18/17 18:27	460-00-4	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

QC Batch: 455695

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 10375909021, 10375909022, 10375909023

SAMPLE DUPLICATE: 2493872

Parameter	Units	10375909021 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	32.7	32.3	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

QC Batch: 455929 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10375909001, 10375909002, 10375909003, 10375909004, 10375909005

METHOD BLANK: 2495801 Matrix: Solid
Associated Lab Samples: 10375909001, 10375909002, 10375909003, 10375909004, 10375909005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	01/18/17 00:01	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	01/18/17 00:01	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	01/18/17 00:01	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	01/18/17 00:01	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	01/18/17 00:01	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	01/18/17 00:01	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	01/18/17 00:01	
1,2,4-Trimethylbenzene	ug/kg	14.8J	50.0	11.0	01/18/17 00:01	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	01/18/17 00:01	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/18/17 00:01	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	01/18/17 00:01	
1,3,5-Trimethylbenzene	ug/kg	13.3J	50.0	11.5	01/18/17 00:01	
1,3-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/18/17 00:01	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	01/18/17 00:01	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	01/18/17 00:01	
2-Hexanone	ug/kg	<58.9	250	58.9	01/18/17 00:01	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	01/18/17 00:01	
Acetone	ug/kg	<328	1000	328	01/18/17 00:01	
Benzene	ug/kg	<4.3	20.0	4.3	01/18/17 00:01	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	01/18/17 00:01	
Bromoform	ug/kg	<43.1	200	43.1	01/18/17 00:01	
Bromomethane	ug/kg	<50.7	500	50.7	01/18/17 00:01	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	01/18/17 00:01	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	01/18/17 00:01	
Chloroethane	ug/kg	<79.0	500	79.0	01/18/17 00:01	
Chloroform	ug/kg	<24.3	50.0	24.3	01/18/17 00:01	
Chloromethane	ug/kg	<24.2	200	24.2	01/18/17 00:01	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	01/18/17 00:01	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	01/18/17 00:01	
Dibromochloromethane	ug/kg	<42.9	200	42.9	01/18/17 00:01	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	01/18/17 00:01	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	01/18/17 00:01	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	01/18/17 00:01	
m&p-Xylene	ug/kg	<25.1	100	25.1	01/18/17 00:01	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	01/18/17 00:01	
Methylene Chloride	ug/kg	<92.6	200	92.6	01/18/17 00:01	
Naphthalene	ug/kg	<12.1	200	12.1	01/18/17 00:01	
o-Xylene	ug/kg	<14.9	50.0	14.9	01/18/17 00:01	
Styrene	ug/kg	<13.0	50.0	13.0	01/18/17 00:01	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	01/18/17 00:01	
Tetrahydrofuran	ug/kg	<248	2000	248	01/18/17 00:01	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

METHOD BLANK: 2495801 Matrix: Solid
Associated Lab Samples: 10375909001, 10375909002, 10375909003, 10375909004, 10375909005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<15.9	50.0	15.9	01/18/17 00:01	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	01/18/17 00:01	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	01/18/17 00:01	
Trichloroethene	ug/kg	<14.3	50.0	14.3	01/18/17 00:01	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	01/18/17 00:01	
Vinyl acetate	ug/kg	<52.9	500	52.9	01/18/17 00:01	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	01/18/17 00:01	
1,2-Dichloroethane-d4 (S)	%	87	75-129		01/18/17 00:01	
4-Bromofluorobenzene (S)	%	104	75-125		01/18/17 00:01	
Toluene-d8 (S)	%	98	75-125		01/18/17 00:01	

LABORATORY CONTROL SAMPLE & LCSD: 2495802

2495803

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	822	800	82	80	64-132	3	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	845	867	84	87	50-138	3	20	
1,1,2-Trichloroethane	ug/kg	1000	886	919	89	92	69-126	4	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	924	868	92	87	53-144	6	20	
1,1-Dichloroethane	ug/kg	1000	832	817	83	82	61-134	2	20	
1,1-Dichloroethene	ug/kg	1000	928	871	93	87	57-135	6	20	
1,2,4-Trichlorobenzene	ug/kg	1000	750	812	75	81	38-138	8	20	
1,2,4-Trimethylbenzene	ug/kg	1000	837	859	84	86	70-127	3	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	885	877	88	88	69-130	1	20	
1,2-Dichlorobenzene	ug/kg	1000	840	853	84	85	72-125	1	20	
1,2-Dichloroethane	ug/kg	1000	736	709	74	71	62-125	4	20	
1,3,5-Trimethylbenzene	ug/kg	1000	859	878	86	88	71-129	2	20	
1,3-Dichlorobenzene	ug/kg	1000	832	864	83	86	72-126	4	20	
1,4-Dichlorobenzene	ug/kg	1000	846	913	85	91	70-126	8	20	
2-Butanone (MEK)	ug/kg	5000	4120	4120	82	82	38-149	0	20	
2-Hexanone	ug/kg	5000	4360	4420	87	88	47-139	1	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4360	4350	87	87	52-145	0	20	
Acetone	ug/kg	5000	4700	4830	94	97	65-142	3	20	
Benzene	ug/kg	1000	852	846	85	85	64-125	1	20	
Bromodichloromethane	ug/kg	1000	805	795	80	80	67-125	1	20	
Bromoform	ug/kg	1000	770	734	77	73	56-127	5	20	
Bromomethane	ug/kg	1000	808	789	81	79	34-137	2	20	
Carbon tetrachloride	ug/kg	1000	791	772	79	77	58-138	2	20	
Chlorobenzene	ug/kg	1000	864	893	86	89	72-125	3	20	
Chloroethane	ug/kg	1000	943	704	94	70	39-148	29	20	R1
Chloroform	ug/kg	1000	823	841	82	84	67-125	2	20	
Chloromethane	ug/kg	1000	749	748	75	75	54-125	0	20	
cis-1,2-Dichloroethene	ug/kg	1000	865	890	87	89	67-125	3	20	
cis-1,3-Dichloropropene	ug/kg	1000	810	831	81	83	62-127	3	20	
Dibromochloromethane	ug/kg	1000	798	757	80	76	67-125	5	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

LABORATORY CONTROL SAMPLE & LCSD: 2495802

2495803

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dichlorodifluoromethane	ug/kg	1000	525	527	52	53	34-139	1	20	
Ethylbenzene	ug/kg	1000	866	922	87	92	70-129	6	20	
Hexachloro-1,3-butadiene	ug/kg	1000	734	776	73	78	48-126	6	20	
m&p-Xylene	ug/kg	2000	1780	1840	89	92	73-131	3	20	
Methyl-tert-butyl ether	ug/kg	1000	830	811	83	81	61-125	2	20	
Methylene Chloride	ug/kg	1000	828	811	83	81	60-126	2	20	
Naphthalene	ug/kg	1000	753	859	75	86	35-147	13	20	
o-Xylene	ug/kg	1000	839	873	84	87	74-127	4	20	
Styrene	ug/kg	1000	879	908	88	91	73-125	3	20	
Tetrachloroethene	ug/kg	1000	849	906	85	91	66-135	6	20	
Tetrahydrofuran	ug/kg	10000	8570	8330	86	83	66-145	3	20	
Toluene	ug/kg	1000	917	938	92	94	69-125	2	20	
trans-1,2-Dichloroethene	ug/kg	1000	795	813	79	81	55-135	2	20	
trans-1,3-Dichloropropene	ug/kg	1000	870	906	87	91	67-125	4	20	
Trichloroethene	ug/kg	1000	818	854	82	85	62-141	4	20	
Trichlorofluoromethane	ug/kg	1000	1060	693	106	69	38-150	42	20	R1
Vinyl acetate	ug/kg	1000	803	786	80	79	52-125	2	20	
Vinyl chloride	ug/kg	1000	868	855	87	85	57-131	2	20	
1,2-Dichloroethane-d4 (S)	%				89	89	75-129			
4-Bromofluorobenzene (S)	%				101	99	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2496603

Parameter	Units	10376141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	<19.6	919	887	97	51-137	
1,1,2,2-Tetrachloroethane	ug/kg	<10.4	919	1030	112	40-149	
1,1,2-Trichloroethane	ug/kg	<10.1	919	999	109	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	<33.8	919	650	71	41-150	
1,1-Dichloroethane	ug/kg	<18.2	919	902	98	53-131	
1,1-Dichloroethene	ug/kg	<11.9	919	804	87	41-133	
1,2,4-Trichlorobenzene	ug/kg	<14.4	919	988	107	52-142	
1,2,4-Trimethylbenzene	ug/kg	<10.3	919	1030	112	56-142	
1,2-Dibromoethane (EDB)	ug/kg	<17.6	919	1020	111	57-136	
1,2-Dichlorobenzene	ug/kg	<9.1	919	1020	111	59-136	
1,2-Dichloroethane	ug/kg	<14.8	919	829	90	52-133	
1,3,5-Trimethylbenzene	ug/kg	<10.8	919	1050	115	54-143	
1,3-Dichlorobenzene	ug/kg	<9.1	919	1030	112	60-137	
1,4-Dichlorobenzene	ug/kg	<13.6	919	1070	116	51-132	
2-Butanone (MEK)	ug/kg	<61.9	4600	4580	100	46-125	
2-Hexanone	ug/kg	<55.3	4600	4760	104	52-128	
4-Methyl-2-pentanone (MIBK)	ug/kg	<31.1	4600	4940	107	47-146	
Acetone	ug/kg	<308	4600	5610	122	45-148	
Benzene	ug/kg	<4.1	919	971	106	41-134	
Bromodichloromethane	ug/kg	<13.1	919	926	101	55-136	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

MATRIX SPIKE SAMPLE: 2496603		10376141001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/kg	<40.4	919	866	94	51-139	
Bromomethane	ug/kg	<47.6	919	797	87	35-148	
Carbon tetrachloride	ug/kg	<14.7	919	823	90	50-140	
Chlorobenzene	ug/kg	<8.2	919	1020	111	59-133	
Chloroethane	ug/kg	<74.1	919	579	63	30-150	
Chloroform	ug/kg	<22.8	919	921	100	58-128	
Chloromethane	ug/kg	<22.7	919	553	60	38-125	
cis-1,2-Dichloroethene	ug/kg	<17.4	919	943	103	59-125	
cis-1,3-Dichloropropene	ug/kg	<21.4	919	954	104	57-133	
Dibromochloromethane	ug/kg	<40.2	919	918	100	54-141	
Dichlorodifluoromethane	ug/kg	<14.4	919	262	29	30-125	M1
Ethylbenzene	ug/kg	<14.9	919	1040	113	56-141	
Hexachloro-1,3-butadiene	ug/kg	<44.1	919	944	103	45-150	
m&p-Xylene	ug/kg	<23.5	1840	2090	113	58-139	
Methyl-tert-butyl ether	ug/kg	<8.8	919	939	102	53-133	
Methylene Chloride	ug/kg	<86.9	919	884	95	42-135	
Naphthalene	ug/kg	<11.4	919	1010	110	41-150	
o-Xylene	ug/kg	<14.0	919	1020	111	53-132	
Styrene	ug/kg	<12.2	919	1050	114	53-137	
Tetrachloroethene	ug/kg	<17.9	919	952	104	53-138	
Tetrahydrofuran	ug/kg	<233	9190	9720	106	50-145	
Toluene	ug/kg	<14.9	919	1060	115	55-134	
trans-1,2-Dichloroethene	ug/kg	<22.6	919	833	91	44-135	
trans-1,3-Dichloropropene	ug/kg	<15.9	919	1010	109	59-139	
Trichloroethene	ug/kg	<13.4	919	939	102	52-143	
Trichlorofluoromethane	ug/kg	<47.1	919	461	50	30-150	
Vinyl acetate	ug/kg	<49.6	919	910	99	30-150	
Vinyl chloride	ug/kg	<6.0	919	631	69	36-127	
1,2-Dichloroethane-d4 (S)	%				89	75-129	
4-Bromofluorobenzene (S)	%				103	75-125	
Toluene-d8 (S)	%				99	75-125	

SAMPLE DUPLICATE: 2496604

Parameter	Units	10376141002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1-Trichloroethane	ug/kg	<22.4	<21.2		30	
1,1,2,2-Tetrachloroethane	ug/kg	<11.9	<11.2		30	
1,1,2-Trichloroethane	ug/kg	<11.6	<10.9		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	<38.6	<36.4		30	
1,1-Dichloroethane	ug/kg	<20.8	<19.6		30	
1,1-Dichloroethene	ug/kg	<13.6	<12.9		30	
1,2,4-Trichlorobenzene	ug/kg	<16.5	<15.6		30	
1,2,4-Trimethylbenzene	ug/kg	<11.8	<11.1		30	
1,2-Dibromoethane (EDB)	ug/kg	<20.1	<19.0		30	
1,2-Dichlorobenzene	ug/kg	<10.4	<9.8		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

SAMPLE DUPLICATE: 2496604

Parameter	Units	10376141002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/kg	<16.9	<16.0		30	
1,3,5-Trimethylbenzene	ug/kg	<12.3	<11.6		30	
1,3-Dichlorobenzene	ug/kg	<10.4	<9.8		30	
1,4-Dichlorobenzene	ug/kg	<15.5	<14.7		30	
2-Butanone (MEK)	ug/kg	<70.7	<66.8		30	
2-Hexanone	ug/kg	<63.1	<59.6		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	<35.5	<33.5		30	
Acetone	ug/kg	<351	<332		30	
Benzene	ug/kg	<4.6	<4.4		30	
Bromodichloromethane	ug/kg	<15.0	<14.2		30	
Bromoform	ug/kg	<46.2	<43.6		30	
Bromomethane	ug/kg	<54.3	<51.3		30	
Carbon tetrachloride	ug/kg	<16.8	<15.9		30	
Chlorobenzene	ug/kg	<9.3	<8.8		30	
Chloroethane	ug/kg	<84.6	<80.0		30	
Chloroform	ug/kg	<26.0	<24.6		30	
Chloromethane	ug/kg	<25.9	<24.5		30	
cis-1,2-Dichloroethene	ug/kg	<19.9	<18.8		30	
cis-1,3-Dichloropropene	ug/kg	<24.4	<23.1		30	
Dibromochloromethane	ug/kg	<46.0	<43.4		30	
Dichlorodifluoromethane	ug/kg	<16.4	<15.5		30	
Ethylbenzene	ug/kg	<17.0	<16.1		30	
Hexachloro-1,3-butadiene	ug/kg	<50.4	<47.6		30	
m&p-Xylene	ug/kg	<26.9	<25.4		30	
Methyl-tert-butyl ether	ug/kg	<10.0	<9.5		30	
Methylene Chloride	ug/kg	<99.2	<93.7		30	
Naphthalene	ug/kg	<13.0	<12.2		30	
o-Xylene	ug/kg	<16.0	<15.1		30	
Styrene	ug/kg	<13.9	<13.2		30	
Tetrachloroethene	ug/kg	<20.5	<19.3		30	
Tetrahydrofuran	ug/kg	<266	<251		30	
Toluene	ug/kg	<17.0	<16.1		30	
trans-1,2-Dichloroethene	ug/kg	<25.8	<24.4		30	
trans-1,3-Dichloropropene	ug/kg	<18.2	<17.2		30	
Trichloroethene	ug/kg	<15.3	<14.5		30	
Trichlorofluoromethane	ug/kg	<53.8	<50.8		30	
Vinyl acetate	ug/kg	<56.7	<53.5		30	
Vinyl chloride	ug/kg	<6.9	<6.5		30	
1,2-Dichloroethane-d4 (S)	%	87	88	5		
4-Bromofluorobenzene (S)	%	97	100	3		
Toluene-d8 (S)	%	99	96	9		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
QC Project No.: 10375909

QC Batch: 455972 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10375909006, 10375909007, 10375909008, 10375909009, 10375909010, 10375909011, 10375909012, 10375909013, 10375909014, 10375909015, 10375909016, 10375909017, 10375909018, 10375909019, 10375909020, 10375909021, 10375909022, 10375909023

METHOD BLANK: 2496039 Matrix: Solid
Associated Lab Samples: 10375909006, 10375909007, 10375909008, 10375909009, 10375909010, 10375909011, 10375909012, 10375909013, 10375909014, 10375909015, 10375909016, 10375909017, 10375909018, 10375909019, 10375909020, 10375909021, 10375909022, 10375909023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	01/18/17 14:40	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	01/18/17 14:40	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	01/18/17 14:40	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	01/18/17 14:40	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	01/18/17 14:40	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	01/18/17 14:40	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	01/18/17 14:40	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	01/18/17 14:40	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	01/18/17 14:40	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/18/17 14:40	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	01/18/17 14:40	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	01/18/17 14:40	
1,3-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/18/17 14:40	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	01/18/17 14:40	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	01/18/17 14:40	
2-Hexanone	ug/kg	<58.9	250	58.9	01/18/17 14:40	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	01/18/17 14:40	
Acetone	ug/kg	<328	1000	328	01/18/17 14:40	
Benzene	ug/kg	<4.3	20.0	4.3	01/18/17 14:40	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	01/18/17 14:40	
Bromoform	ug/kg	<43.1	200	43.1	01/18/17 14:40	
Bromomethane	ug/kg	<50.7	500	50.7	01/18/17 14:40	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	01/18/17 14:40	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	01/18/17 14:40	
Chloroethane	ug/kg	<79.0	500	79.0	01/18/17 14:40	
Chloroform	ug/kg	<24.3	50.0	24.3	01/18/17 14:40	
Chloromethane	ug/kg	<24.2	200	24.2	01/18/17 14:40	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	01/18/17 14:40	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	01/18/17 14:40	
Dibromochloromethane	ug/kg	<42.9	200	42.9	01/18/17 14:40	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	01/18/17 14:40	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	01/18/17 14:40	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	01/18/17 14:40	
m&p-Xylene	ug/kg	<25.1	100	25.1	01/18/17 14:40	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	01/18/17 14:40	
Methylene Chloride	ug/kg	<92.6	200	92.6	01/18/17 14:40	
Naphthalene	ug/kg	<12.1	200	12.1	01/18/17 14:40	
o-Xylene	ug/kg	<14.9	50.0	14.9	01/18/17 14:40	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

METHOD BLANK: 2496039

Matrix: Solid

Associated Lab Samples: 10375909006, 10375909007, 10375909008, 10375909009, 10375909010, 10375909011, 10375909012, 10375909013, 10375909014, 10375909015, 10375909016, 10375909017, 10375909018, 10375909019, 10375909020, 10375909021, 10375909022, 10375909023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Styrene	ug/kg	<13.0	50.0	13.0	01/18/17 14:40	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	01/18/17 14:40	
Tetrahydrofuran	ug/kg	<248	2000	248	01/18/17 14:40	
Toluene	ug/kg	<15.9	50.0	15.9	01/18/17 14:40	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	01/18/17 14:40	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	01/18/17 14:40	
Trichloroethene	ug/kg	<14.3	50.0	14.3	01/18/17 14:40	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	01/18/17 14:40	
Vinyl acetate	ug/kg	<52.9	500	52.9	01/18/17 14:40	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	01/18/17 14:40	
1,2-Dichloroethane-d4 (S)	%	88	75-129		01/18/17 14:40	
4-Bromofluorobenzene (S)	%	105	75-125		01/18/17 14:40	
Toluene-d8 (S)	%	98	75-125		01/18/17 14:40	

LABORATORY CONTROL SAMPLE: 2496040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	897	90	64-132	
1,1,2,2-Tetrachloroethane	ug/kg	1000	990	99	50-138	
1,1,2-Trichloroethane	ug/kg	1000	930	93	69-126	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	951	95	53-144	
1,1-Dichloroethane	ug/kg	1000	950	95	61-134	
1,1-Dichloroethene	ug/kg	1000	1000	100	57-135	
1,2,4-Trichlorobenzene	ug/kg	1000	867	87	38-138	
1,2,4-Trimethylbenzene	ug/kg	1000	959	96	70-127	
1,2-Dibromoethane (EDB)	ug/kg	1000	949	95	69-130	
1,2-Dichlorobenzene	ug/kg	1000	893	89	72-125	
1,2-Dichloroethane	ug/kg	1000	762	76	62-125	
1,3,5-Trimethylbenzene	ug/kg	1000	979	98	71-129	
1,3-Dichlorobenzene	ug/kg	1000	916	92	72-126	
1,4-Dichlorobenzene	ug/kg	1000	930	93	70-126	
2-Butanone (MEK)	ug/kg	5000	5100	102	38-149	
2-Hexanone	ug/kg	5000	5010	100	47-139	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5010	100	52-145	
Acetone	ug/kg	5000	5170	103	65-142	
Benzene	ug/kg	1000	953	95	64-125	
Bromodichloromethane	ug/kg	1000	857	86	67-125	
Bromoform	ug/kg	1000	866	87	56-127	
Bromomethane	ug/kg	1000	1030	103	34-137	
Carbon tetrachloride	ug/kg	1000	824	82	58-138	
Chlorobenzene	ug/kg	1000	916	92	72-125	
Chloroethane	ug/kg	1000	974	97	39-148	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

LABORATORY CONTROL SAMPLE: 2496040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/kg	1000	909	91	67-125	
Chloromethane	ug/kg	1000	864	86	54-125	
cis-1,2-Dichloroethene	ug/kg	1000	960	96	67-125	
cis-1,3-Dichloropropene	ug/kg	1000	879	88	62-127	
Dibromochloromethane	ug/kg	1000	887	89	67-125	
Dichlorodifluoromethane	ug/kg	1000	640	64	34-139	
Ethylbenzene	ug/kg	1000	956	96	70-129	
Hexachloro-1,3-butadiene	ug/kg	1000	850	85	48-126	
m&p-Xylene	ug/kg	2000	1950	98	73-131	
Methyl-tert-butyl ether	ug/kg	1000	915	91	61-125	
Methylene Chloride	ug/kg	1000	905	91	60-126	
Naphthalene	ug/kg	1000	925	93	35-147	
o-Xylene	ug/kg	1000	932	93	74-127	
Styrene	ug/kg	1000	957	96	73-125	
Tetrachloroethene	ug/kg	1000	924	92	66-135	
Tetrahydrofuran	ug/kg	10000	9600	96	66-145	
Toluene	ug/kg	1000	979	98	69-125	
trans-1,2-Dichloroethene	ug/kg	1000	897	90	55-135	
trans-1,3-Dichloropropene	ug/kg	1000	948	95	67-125	
Trichloroethene	ug/kg	1000	892	89	62-141	
Trichlorofluoromethane	ug/kg	1000	1110	111	38-150	
Vinyl acetate	ug/kg	1000	955	95	52-125	
Vinyl chloride	ug/kg	1000	1050	105	57-131	
1,2-Dichloroethane-d4 (S)	%			89	75-129	
4-Bromofluorobenzene (S)	%			108	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2496041 2496042

Parameter	Units	10375909007		2496041		2496042		% Rec	% Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Result							
1,1,1-Trichloroethane	ug/kg	<28.6	1400	1380	1340	1330	96	96	51-137	1	30			
1,1,2,2-Tetrachloroethane	ug/kg	<15.2	1400	1380	1610	1650	114	120	40-149	3	30			
1,1,2-Trichloroethane	ug/kg	<14.8	1400	1380	1520	1560	108	113	54-144	3	30			
1,1,2-Trichlorotrifluoroethane	ug/kg	<49.3	1400	1380	1110	1120	79	81	41-150	1	30			
1,1-Dichloroethane	ug/kg	<26.6	1400	1380	1440	1440	102	104	53-131	0	30			
1,1-Dichloroethene	ug/kg	<17.4	1400	1380	1300	1290	93	94	41-133	1	30			
1,2,4-Trichlorobenzene	ug/kg	<21.1	1400	1380	1490	1500	106	109	52-142	1	30			
1,2,4-Trimethylbenzene	ug/kg	<15.1	1400	1380	1530	1590	109	115	56-142	4	30			
1,2-Dibromoethane (EDB)	ug/kg	<25.8	1400	1380	1590	1560	113	113	57-136	2	30			
1,2-Dichlorobenzene	ug/kg	<13.2	1400	1380	1510	1490	107	108	59-136	1	30			
1,2-Dichloroethane	ug/kg	<21.7	1400	1380	1240	1200	88	87	52-133	3	30			
1,3,5-Trimethylbenzene	ug/kg	<15.8	1400	1380	1620	1630	115	118	54-143	1	30			
1,3-Dichlorobenzene	ug/kg	<13.2	1400	1380	1500	1520	106	110	60-137	2	30			
1,4-Dichlorobenzene	ug/kg	<19.9	1400	1380	1540	1530	109	111	51-132	0	30			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

Parameter	Units	2496041		2496042		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10375909007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
2-Butanone (MEK)	ug/kg	<90.5	7030	6900	8680	8330	123	121	46-125	4	30		
2-Hexanone	ug/kg	<80.7	7030	6900	8750	8490	124	123	52-128	3	30		
4-Methyl-2-pentanone (MIBK)	ug/kg	<45.4	7030	6900	8470	8480	120	123	47-146	0	30		
Acetone	ug/kg	<450	7030	6900	8420	8710	120	126	45-148	3	30		
Benzene	ug/kg	<5.9	1400	1380	1480	1500	106	109	41-134	1	30		
Bromodichloromethane	ug/kg	<19.2	1400	1380	1390	1330	99	96	55-136	5	30		
Bromoform	ug/kg	<59.1	1400	1380	1420	1430	101	104	51-139	1	30		
Bromomethane	ug/kg	<69.5	1400	1380	1350	1300	96	94	35-148	4	30		
Carbon tetrachloride	ug/kg	<21.5	1400	1380	1250	1260	89	91	50-140	1	30		
Chlorobenzene	ug/kg	<11.9	1400	1380	1520	1520	108	111	59-133	1	30		
Chloroethane	ug/kg	<108	1400	1380	982	1010	70	73	30-150	2	30		
Chloroform	ug/kg	<33.3	1400	1380	1420	1370	101	99	58-128	4	30		
Chloromethane	ug/kg	<33.2	1400	1380	992	1010	71	73	38-125	2	30		
cis-1,2-Dichloroethene	ug/kg	<25.5	1400	1380	1500	1500	106	109	59-125	0	30		
cis-1,3-Dichloropropene	ug/kg	<31.2	1400	1380	1460	1400	104	102	57-133	4	30		
Dibromochloromethane	ug/kg	<58.8	1400	1380	1430	1390	102	100	54-141	3	30		
Dichlorodifluoromethane	ug/kg	<21.0	1400	1380	410	433	29	31	30-125	5	30	M1	
Ethylbenzene	ug/kg	<21.8	1400	1380	1560	1550	111	113	56-141	1	30		
Hexachloro-1,3-butadiene	ug/kg	<64.4	1400	1380	1340	1430	95	104	45-150	6	30		
m&p-Xylene	ug/kg	<34.4	2820	2760	3170	3200	112	115	58-139	1	30		
Methyl-tert-butyl ether	ug/kg	<12.8	1400	1380	1530	1480	109	107	53-133	3	30		
Methylene Chloride	ug/kg	<127	1400	1380	1410	1370	97	97	42-135	2	30		
Naphthalene	ug/kg	<16.6	1400	1380	1620	1610	115	117	41-150	1	30		
o-Xylene	ug/kg	<20.4	1400	1380	1520	1540	108	111	53-132	1	30		
Styrene	ug/kg	<17.8	1400	1380	1600	1590	114	115	53-137	1	30		
Tetrachloroethene	ug/kg	<26.2	1400	1380	1450	1500	103	109	53-138	4	30		
Tetrahydrofuran	ug/kg	<340	14000	13800	15200	15700	108	113	50-145	3	30		
Toluene	ug/kg	<21.8	1400	1380	1550	1590	110	115	55-134	2	30		
trans-1,2-Dichloroethene	ug/kg	<33.0	1400	1380	1290	1340	92	97	44-135	4	30		
trans-1,3-Dichloropropene	ug/kg	<23.3	1400	1380	1530	1510	109	109	59-139	2	30		
Trichloroethene	ug/kg	<19.6	1400	1380	1360	1390	96	101	52-143	3	30		
Trichlorofluoromethane	ug/kg	<68.8	1400	1380	830	882	59	64	30-150	6	30		
Vinyl acetate	ug/kg	<72.5	1400	1380	1500	1500	107	109	30-150	0	30		
Vinyl chloride	ug/kg	<8.8	1400	1380	1190	1230	84	89	36-127	3	30		
1,2-Dichloroethane-d4 (S)	%						89	86	75-129				
4-Bromofluorobenzene (S)	%						104	104	75-125				
Toluene-d8 (S)	%						99	100	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10375909

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10375909

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10375909001	SB36-SS-5	ASTM D2974	455688		
10375909002	SB36-SS-10	ASTM D2974	455688		
10375909003	SB36-SS-15	ASTM D2974	455688		
10375909004	SB36-SS-20	ASTM D2974	455688		
10375909005	SB36-SS-25	ASTM D2974	455688		
10375909006	SB36-SS-30	ASTM D2974	455688		
10375909007	SB36-SS-35	ASTM D2974	455688		
10375909008	SB36-SS-40	ASTM D2974	455688		
10375909009	SB36-SS-45	ASTM D2974	455688		
10375909010	SB36-SS-50	ASTM D2974	455688		
10375909011	SSFD-2	ASTM D2974	455688		
10375909012	SB37-SS-5	ASTM D2974	455688		
10375909013	SSFD-3	ASTM D2974	455688		
10375909014	SB37-SS-10	ASTM D2974	455688		
10375909015	SB37-SS-15	ASTM D2974	455688		
10375909016	SB37-SS-20	ASTM D2974	455688		
10375909017	SB37-SS-25	ASTM D2974	455688		
10375909018	SB37-SS-30	ASTM D2974	455688		
10375909019	SB37-SS-35	ASTM D2974	455688		
10375909020	SB37-SS-40	ASTM D2974	455688		
10375909021	SB37-SS-45	ASTM D2974	455695		
10375909022	SB37-SS-50	ASTM D2974	455695		
10375909023	SB37-SS-55	ASTM D2974	455695		
10375909001	SB36-SS-5	EPA 5035/5030B	455929	EPA 8260B	456321
10375909002	SB36-SS-10	EPA 5035/5030B	455929	EPA 8260B	456321
10375909003	SB36-SS-15	EPA 5035/5030B	455929	EPA 8260B	456321
10375909004	SB36-SS-20	EPA 5035/5030B	455929	EPA 8260B	456321
10375909005	SB36-SS-25	EPA 5035/5030B	455929	EPA 8260B	456321
10375909006	SB36-SS-30	EPA 5035/5030B	455972	EPA 8260B	456353
10375909007	SB36-SS-35	EPA 5035/5030B	455972	EPA 8260B	456353
10375909008	SB36-SS-40	EPA 5035/5030B	455972	EPA 8260B	456353
10375909009	SB36-SS-45	EPA 5035/5030B	455972	EPA 8260B	456353
10375909010	SB36-SS-50	EPA 5035/5030B	455972	EPA 8260B	456353
10375909011	SSFD-2	EPA 5035/5030B	455972	EPA 8260B	456353
10375909012	SB37-SS-5	EPA 5035/5030B	455972	EPA 8260B	456353
10375909013	SSFD-3	EPA 5035/5030B	455972	EPA 8260B	456353
10375909014	SB37-SS-10	EPA 5035/5030B	455972	EPA 8260B	456353
10375909015	SB37-SS-15	EPA 5035/5030B	455972	EPA 8260B	456353
10375909016	SB37-SS-20	EPA 5035/5030B	455972	EPA 8260B	456353
10375909017	SB37-SS-25	EPA 5035/5030B	455972	EPA 8260B	456353
10375909018	SB37-SS-30	EPA 5035/5030B	455972	EPA 8260B	456353
10375909019	SB37-SS-35	EPA 5035/5030B	455972	EPA 8260B	456353
10375909020	SB37-SS-40	EPA 5035/5030B	455972	EPA 8260B	456353
10375909021	SB37-SS-45	EPA 5035/5030B	455972	EPA 8260B	456353
10375909022	SB37-SS-50	EPA 5035/5030B	455972	EPA 8260B	456353
10375909023	SB37-SS-55	EPA 5035/5030B	455972	EPA 8260B	456353


REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs **Client Name:** CH2M Hill **Project #:** **WO# : 10375909**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 7096 3370 9663

Barcode:  **10375909**

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer Used: 151401163 151401164 **Type of ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.5 **Cooler Temp Corrected (°C):** 1.4 **Biological Tissue Frozen?** Yes No NA *See 1/13/14*

Temp should be above freezing to 6°C **Correction Factor:** -0.1 **Date and Initials of Person Examining Contents:** 1/10/17 *SW*

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No **Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?** Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>SL</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Per method, VOA pH is checked after analysis		
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>2:15</u>	Temp: <u>1.5</u>	Corrected Temp: <u>1.4</u>
Time: <u>10:15</u>	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review: JENNI GROSS **Date:** 01/13/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

February 13, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

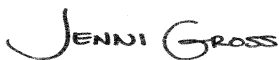
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on February 13th 2017 to update the client sample ID for 10376141-006. Per client request, the sample ID was updated from SB37-SS-10 to SB35-SS-10.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10376141001	SB37-SS-65	Solid	01/12/17 09:40	01/17/17 10:45
10376141002	SB37-SS-70	Solid	01/12/17 11:50	01/17/17 10:45
10376141003	SB37-SS-75	Solid	01/12/17 12:00	01/17/17 10:45
10376141004	SB37-SS-80	Solid	01/12/17 12:30	01/17/17 10:45
10376141005	SB37-GW-81	Water	01/12/17 12:45	01/17/17 10:45
10376141006	SB35-SS-10	Solid	01/12/17 15:20	01/17/17 10:45
10376141007	SB35-SS-20	Solid	01/12/17 15:30	01/17/17 10:45
10376141008	SB35-SS-25	Solid	01/12/17 15:40	01/17/17 10:45
10376141009	SSFD-4	Solid	01/12/17 15:50	01/17/17 10:45
10376141010	SB37-SS-60	Solid	01/12/17 09:30	01/17/17 10:45
10376141011	SB35-SS-30	Solid	01/13/17 08:50	01/17/17 10:45
10376141012	SB35-SS-35	Solid	01/13/17 09:00	01/17/17 10:45
10376141013	SB35-SS-40	Solid	01/13/17 09:10	01/17/17 10:45
10376141014	SB35-SS-45	Solid	01/13/17 09:20	01/17/17 10:45
10376141015	SB35-SS-50	Solid	01/13/17 09:40	01/17/17 10:45
10376141016	SB35-SS-55	Solid	01/13/17 09:50	01/17/17 10:45
10376141017	SB35-SS-60	Solid	01/13/17 10:20	01/17/17 10:45
10376141018	SB35-SS-65	Solid	01/13/17 10:30	01/17/17 10:45
10376141019	SB35-SS-70	Solid	01/13/17 12:20	01/17/17 10:45
10376141020	SB35-SS-75	Solid	01/13/17 12:30	01/17/17 10:45
10376141021	SB35-SS-80	Solid	01/13/17 13:00	01/17/17 10:45
10376141022	SSFD-5	Solid	01/13/17 10:00	01/17/17 10:45
10376141023	SB35-GW-69-71	Water	01/13/17 11:50	01/17/17 10:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10376141001	SB37-SS-65	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141002	SB37-SS-70	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141003	SB37-SS-75	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141004	SB37-SS-80	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141005	SB37-GW-81	EPA 8260B	PRD	83	PASI-M
10376141006	SB35-SS-10	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141007	SB35-SS-20	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141008	SB35-SS-25	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141009	SSFD-4	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141010	SB37-SS-60	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141011	SB35-SS-30	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141012	SB35-SS-35	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141013	SB35-SS-40	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141014	SB35-SS-45	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141015	SB35-SS-50	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141016	SB35-SS-55	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141017	SB35-SS-60	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141018	SB35-SS-65	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141019	SB35-SS-70	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10376141020	SB35-SS-75	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141021	SB35-SS-80	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141022	SSFD-5	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10376141023	SB35-GW-69-71	EPA 8260B	PRD	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10376141001	SB37-SS-65					
ASTM D2974	Percent Moisture	34.4	%	0.10	01/27/17 13:14	
10376141002	SB37-SS-70					
ASTM D2974	Percent Moisture	31.5	%	0.10	01/27/17 13:14	
10376141003	SB37-SS-75					
ASTM D2974	Percent Moisture	27.0	%	0.10	01/27/17 13:14	
10376141004	SB37-SS-80					
ASTM D2974	Percent Moisture	15.8	%	0.10	01/27/17 13:14	
EPA 8260B	Toluene	22.3J	ug/kg	62.3	01/19/17 15:26	
10376141006	SB35-SS-10					
ASTM D2974	Percent Moisture	13.6	%	0.10	01/27/17 13:15	
10376141007	SB35-SS-20					
ASTM D2974	Percent Moisture	21.9	%	0.10	01/27/17 13:15	
10376141008	SB35-SS-25					
ASTM D2974	Percent Moisture	16.1	%	0.10	01/27/17 13:15	
10376141009	SSFD-4					
ASTM D2974	Percent Moisture	13.8	%	0.10	01/27/17 13:16	
10376141010	SB37-SS-60					
ASTM D2974	Percent Moisture	33.6	%	0.10	01/27/17 13:16	
EPA 8260B	Toluene	30.2J	ug/kg	75.7	01/19/17 16:30	
10376141011	SB35-SS-30					
ASTM D2974	Percent Moisture	26.0	%	0.10	01/27/17 15:49	
10376141012	SB35-SS-35					
ASTM D2974	Percent Moisture	30.5	%	0.10	01/27/17 15:50	
10376141013	SB35-SS-40					
ASTM D2974	Percent Moisture	29.5	%	0.10	01/27/17 15:50	
10376141014	SB35-SS-45					
ASTM D2974	Percent Moisture	26.0	%	0.10	01/27/17 15:50	
10376141015	SB35-SS-50					
ASTM D2974	Percent Moisture	26.8	%	0.10	01/27/17 15:50	
10376141016	SB35-SS-55					
ASTM D2974	Percent Moisture	24.7	%	0.10	01/27/17 15:51	
10376141017	SB35-SS-60					
ASTM D2974	Percent Moisture	34.6	%	0.10	01/27/17 15:51	
10376141018	SB35-SS-65					
ASTM D2974	Percent Moisture	35.7	%	0.10	01/27/17 15:51	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10376141019	SB35-SS-70					
ASTM D2974	Percent Moisture	34.7	%	0.10	01/27/17 15:51	
10376141020	SB35-SS-75					
ASTM D2974	Percent Moisture	33.9	%	0.10	01/30/17 10:17	
10376141021	SB35-SS-80					
ASTM D2974	Percent Moisture	27.9	%	0.10	01/30/17 10:17	
10376141022	SSFD-5					
ASTM D2974	Percent Moisture	38.3	%	0.10	01/30/17 10:17	
10376141023	SB35-GW-69-71					
EPA 8260B	Benzene	0.25J	ug/L	0.50	01/19/17 20:32	
EPA 8260B	Toluene	0.28J	ug/L	0.50	01/19/17 20:32	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

Method: EPA 8260B
Description: 8260B MSV 5030 Med Level
Client: UPRR_CH2M Hill
Date: February 13, 2017

General Information:

21 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 455929

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2495803)
 - Chloroethane
 - Trichlorofluoromethane

QC Batch: 456418

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2499119)
 - 1,2,4-Trimethylbenzene
 - 2-Butanone (MEK)
 - Dichlorodifluoromethane
 - Naphthalene
 - cis-1,2-Dichloroethene
 - cis-1,3-Dichloropropene

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Method: EPA 8260B

Description: 8260B MSV 5030 Med Level

Client: UPRR_CH2M Hill

Date: February 13, 2017

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 455929

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10376141001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2496603)
- Dichlorodifluoromethane

QC Batch: 456418

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10376141018

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2499117)
- Dichlorodifluoromethane

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: February 13, 2017

General Information:

2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 456336

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2498879)
- Chloromethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB37-SS-65** Lab ID: **10376141001** Collected: 01/12/17 09:40 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	34.4	%	0.10	0.10	1		01/27/17 13:14		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<29.9	ug/kg	71.5	29.9	1	01/17/17 16:50	01/18/17 02:26	71-55-6	
1,1,2,2-Tetrachloroethane	<15.9	ug/kg	71.5	15.9	1	01/17/17 16:50	01/18/17 02:26	79-34-5	
1,1,2-Trichloroethane	<15.4	ug/kg	71.5	15.4	1	01/17/17 16:50	01/18/17 02:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<51.5	ug/kg	286	51.5	1	01/17/17 16:50	01/18/17 02:26	76-13-1	
1,1-Dichloroethane	<27.7	ug/kg	71.5	27.7	1	01/17/17 16:50	01/18/17 02:26	75-34-3	
1,1-Dichloroethene	<18.2	ug/kg	71.5	18.2	1	01/17/17 16:50	01/18/17 02:26	75-35-4	
1,2,4-Trichlorobenzene	<22.0	ug/kg	71.5	22.0	1	01/17/17 16:50	01/18/17 02:26	120-82-1	
1,2,4-Trimethylbenzene	<15.7	ug/kg	71.5	15.7	1	01/17/17 16:50	01/18/17 02:26	95-63-6	
1,2-Dibromoethane (EDB)	<26.9	ug/kg	71.5	26.9	1	01/17/17 16:50	01/18/17 02:26	106-93-4	
1,2-Dichlorobenzene	<13.8	ug/kg	71.5	13.8	1	01/17/17 16:50	01/18/17 02:26	95-50-1	
1,2-Dichloroethane	<22.6	ug/kg	71.5	22.6	1	01/17/17 16:50	01/18/17 02:26	107-06-2	
1,3,5-Trimethylbenzene	<16.4	ug/kg	71.5	16.4	1	01/17/17 16:50	01/18/17 02:26	108-67-8	
1,3-Dichlorobenzene	<13.8	ug/kg	71.5	13.8	1	01/17/17 16:50	01/18/17 02:26	541-73-1	
1,4-Dichlorobenzene	<20.7	ug/kg	71.5	20.7	1	01/17/17 16:50	01/18/17 02:26	106-46-7	
2-Butanone (MEK)	<94.4	ug/kg	357	94.4	1	01/17/17 16:50	01/18/17 02:26	78-93-3	
2-Hexanone	<84.2	ug/kg	357	84.2	1	01/17/17 16:50	01/18/17 02:26	591-78-6	
4-Methyl-2-pentanone (MIBK)	<47.3	ug/kg	357	47.3	1	01/17/17 16:50	01/18/17 02:26	108-10-1	
Acetone	<469	ug/kg	1430	469	1	01/17/17 16:50	01/18/17 02:26	67-64-1	
Benzene	<6.2	ug/kg	28.6	6.2	1	01/17/17 16:50	01/18/17 02:26	71-43-2	
Bromodichloromethane	<20.0	ug/kg	71.5	20.0	1	01/17/17 16:50	01/18/17 02:26	75-27-4	
Bromoform	<61.6	ug/kg	286	61.6	1	01/17/17 16:50	01/18/17 02:26	75-25-2	
Bromomethane	<72.5	ug/kg	715	72.5	1	01/17/17 16:50	01/18/17 02:26	74-83-9	
Carbon tetrachloride	<22.4	ug/kg	71.5	22.4	1	01/17/17 16:50	01/18/17 02:26	56-23-5	
Chlorobenzene	<12.4	ug/kg	71.5	12.4	1	01/17/17 16:50	01/18/17 02:26	108-90-7	
Chloroethane	<113	ug/kg	715	113	1	01/17/17 16:50	01/18/17 02:26	75-00-3	
Chloroform	<34.7	ug/kg	71.5	34.7	1	01/17/17 16:50	01/18/17 02:26	67-66-3	
Chloromethane	<34.6	ug/kg	286	34.6	1	01/17/17 16:50	01/18/17 02:26	74-87-3	
Dibromochloromethane	<61.3	ug/kg	286	61.3	1	01/17/17 16:50	01/18/17 02:26	124-48-1	
Dichlorodifluoromethane	<21.9	ug/kg	286	21.9	1	01/17/17 16:50	01/18/17 02:26	75-71-8	M1
Ethylbenzene	<22.7	ug/kg	71.5	22.7	1	01/17/17 16:50	01/18/17 02:26	100-41-4	
Hexachloro-1,3-butadiene	<67.2	ug/kg	357	67.2	1	01/17/17 16:50	01/18/17 02:26	87-68-3	
Methyl-tert-butyl ether	<13.4	ug/kg	71.5	13.4	1	01/17/17 16:50	01/18/17 02:26	1634-04-4	
Methylene Chloride	<132	ug/kg	286	132	1	01/17/17 16:50	01/18/17 02:26	75-09-2	
Naphthalene	<17.3	ug/kg	286	17.3	1	01/17/17 16:50	01/18/17 02:26	91-20-3	
Styrene	<18.6	ug/kg	71.5	18.6	1	01/17/17 16:50	01/18/17 02:26	100-42-5	
Tetrachloroethene	<27.3	ug/kg	71.5	27.3	1	01/17/17 16:50	01/18/17 02:26	127-18-4	
Tetrahydrofuran	<355	ug/kg	2860	355	1	01/17/17 16:50	01/18/17 02:26	109-99-9	
Toluene	<22.7	ug/kg	71.5	22.7	1	01/17/17 16:50	01/18/17 02:26	108-88-3	
Trichloroethene	<20.4	ug/kg	71.5	20.4	1	01/17/17 16:50	01/18/17 02:26	79-01-6	
Trichlorofluoromethane	<71.8	ug/kg	286	71.8	1	01/17/17 16:50	01/18/17 02:26	75-69-4	
Vinyl acetate	<75.6	ug/kg	715	75.6	1	01/17/17 16:50	01/18/17 02:26	108-05-4	
Vinyl chloride	<9.2	ug/kg	28.6	9.2	1	01/17/17 16:50	01/18/17 02:26	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-SS-65 **Lab ID: 10376141001** Collected: 01/12/17 09:40 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<26.6	ug/kg	71.5	26.6	1	01/17/17 16:50	01/18/17 02:26	156-59-2	
cis-1,3-Dichloropropene	<32.6	ug/kg	71.5	32.6	1	01/17/17 16:50	01/18/17 02:26	10061-01-5	
m&p-Xylene	<35.9	ug/kg	143	35.9	1	01/17/17 16:50	01/18/17 02:26	179601-23-1	
o-Xylene	<21.3	ug/kg	71.5	21.3	1	01/17/17 16:50	01/18/17 02:26	95-47-6	
trans-1,2-Dichloroethene	<34.5	ug/kg	71.5	34.5	1	01/17/17 16:50	01/18/17 02:26	156-60-5	
trans-1,3-Dichloropropene	<24.3	ug/kg	286	24.3	1	01/17/17 16:50	01/18/17 02:26	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/17/17 16:50	01/18/17 02:26	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/17/17 16:50	01/18/17 02:26	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/17/17 16:50	01/18/17 02:26	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-SS-70 **Lab ID: 10376141002** Collected: 01/12/17 11:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	31.5	%	0.10	0.10	1		01/27/17 13:14		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<32.7	ug/kg	78.2	32.7	1	01/17/17 16:50	01/18/17 02:42	71-55-6	
1,1,2,2-Tetrachloroethane	<17.4	ug/kg	78.2	17.4	1	01/17/17 16:50	01/18/17 02:42	79-34-5	
1,1,2-Trichloroethane	<16.9	ug/kg	78.2	16.9	1	01/17/17 16:50	01/18/17 02:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	<56.3	ug/kg	313	56.3	1	01/17/17 16:50	01/18/17 02:42	76-13-1	
1,1-Dichloroethane	<30.3	ug/kg	78.2	30.3	1	01/17/17 16:50	01/18/17 02:42	75-34-3	
1,1-Dichloroethene	<19.9	ug/kg	78.2	19.9	1	01/17/17 16:50	01/18/17 02:42	75-35-4	
1,2,4-Trichlorobenzene	<24.1	ug/kg	78.2	24.1	1	01/17/17 16:50	01/18/17 02:42	120-82-1	
1,2,4-Trimethylbenzene	<17.2	ug/kg	78.2	17.2	1	01/17/17 16:50	01/18/17 02:42	95-63-6	
1,2-Dibromoethane (EDB)	<29.4	ug/kg	78.2	29.4	1	01/17/17 16:50	01/18/17 02:42	106-93-4	
1,2-Dichlorobenzene	<15.1	ug/kg	78.2	15.1	1	01/17/17 16:50	01/18/17 02:42	95-50-1	
1,2-Dichloroethane	<24.7	ug/kg	78.2	24.7	1	01/17/17 16:50	01/18/17 02:42	107-06-2	
1,3,5-Trimethylbenzene	<18.0	ug/kg	78.2	18.0	1	01/17/17 16:50	01/18/17 02:42	108-67-8	
1,3-Dichlorobenzene	<15.1	ug/kg	78.2	15.1	1	01/17/17 16:50	01/18/17 02:42	541-73-1	
1,4-Dichlorobenzene	<22.7	ug/kg	78.2	22.7	1	01/17/17 16:50	01/18/17 02:42	106-46-7	
2-Butanone (MEK)	<103	ug/kg	391	103	1	01/17/17 16:50	01/18/17 02:42	78-93-3	
2-Hexanone	<92.1	ug/kg	391	92.1	1	01/17/17 16:50	01/18/17 02:42	591-78-6	
4-Methyl-2-pentanone (MIBK)	<51.8	ug/kg	391	51.8	1	01/17/17 16:50	01/18/17 02:42	108-10-1	
Acetone	<513	ug/kg	1560	513	1	01/17/17 16:50	01/18/17 02:42	67-64-1	
Benzene	<6.8	ug/kg	31.3	6.8	1	01/17/17 16:50	01/18/17 02:42	71-43-2	
Bromodichloromethane	<21.9	ug/kg	78.2	21.9	1	01/17/17 16:50	01/18/17 02:42	75-27-4	
Bromoform	<67.4	ug/kg	313	67.4	1	01/17/17 16:50	01/18/17 02:42	75-25-2	
Bromomethane	<79.3	ug/kg	782	79.3	1	01/17/17 16:50	01/18/17 02:42	74-83-9	
Carbon tetrachloride	<24.6	ug/kg	78.2	24.6	1	01/17/17 16:50	01/18/17 02:42	56-23-5	
Chlorobenzene	<13.6	ug/kg	78.2	13.6	1	01/17/17 16:50	01/18/17 02:42	108-90-7	
Chloroethane	<124	ug/kg	782	124	1	01/17/17 16:50	01/18/17 02:42	75-00-3	
Chloroform	<38.0	ug/kg	78.2	38.0	1	01/17/17 16:50	01/18/17 02:42	67-66-3	
Chloromethane	<37.9	ug/kg	313	37.9	1	01/17/17 16:50	01/18/17 02:42	74-87-3	
Dibromochloromethane	<67.1	ug/kg	313	67.1	1	01/17/17 16:50	01/18/17 02:42	124-48-1	
Dichlorodifluoromethane	<23.9	ug/kg	313	23.9	1	01/17/17 16:50	01/18/17 02:42	75-71-8	
Ethylbenzene	<24.9	ug/kg	78.2	24.9	1	01/17/17 16:50	01/18/17 02:42	100-41-4	
Hexachloro-1,3-butadiene	<73.5	ug/kg	391	73.5	1	01/17/17 16:50	01/18/17 02:42	87-68-3	
Methyl-tert-butyl ether	<14.6	ug/kg	78.2	14.6	1	01/17/17 16:50	01/18/17 02:42	1634-04-4	
Methylene Chloride	<145	ug/kg	313	145	1	01/17/17 16:50	01/18/17 02:42	75-09-2	
Naphthalene	<18.9	ug/kg	313	18.9	1	01/17/17 16:50	01/18/17 02:42	91-20-3	
Styrene	<20.3	ug/kg	78.2	20.3	1	01/17/17 16:50	01/18/17 02:42	100-42-5	
Tetrachloroethene	<29.9	ug/kg	78.2	29.9	1	01/17/17 16:50	01/18/17 02:42	127-18-4	
Tetrahydrofuran	<388	ug/kg	3130	388	1	01/17/17 16:50	01/18/17 02:42	109-99-9	
Toluene	<24.9	ug/kg	78.2	24.9	1	01/17/17 16:50	01/18/17 02:42	108-88-3	
Trichloroethene	<22.4	ug/kg	78.2	22.4	1	01/17/17 16:50	01/18/17 02:42	79-01-6	
Trichlorofluoromethane	<78.5	ug/kg	313	78.5	1	01/17/17 16:50	01/18/17 02:42	75-69-4	
Vinyl acetate	<82.7	ug/kg	782	82.7	1	01/17/17 16:50	01/18/17 02:42	108-05-4	
Vinyl chloride	<10.0	ug/kg	31.3	10.0	1	01/17/17 16:50	01/18/17 02:42	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-SS-70 **Lab ID: 10376141002** Collected: 01/12/17 11:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<29.1	ug/kg	78.2	29.1	1	01/17/17 16:50	01/18/17 02:42	156-59-2	
cis-1,3-Dichloropropene	<35.7	ug/kg	78.2	35.7	1	01/17/17 16:50	01/18/17 02:42	10061-01-5	
m&p-Xylene	<39.3	ug/kg	156	39.3	1	01/17/17 16:50	01/18/17 02:42	179601-23-1	
o-Xylene	<23.3	ug/kg	78.2	23.3	1	01/17/17 16:50	01/18/17 02:42	95-47-6	
trans-1,2-Dichloroethene	<37.7	ug/kg	78.2	37.7	1	01/17/17 16:50	01/18/17 02:42	156-60-5	
trans-1,3-Dichloropropene	<26.6	ug/kg	313	26.6	1	01/17/17 16:50	01/18/17 02:42	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-129		1	01/17/17 16:50	01/18/17 02:42	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/17/17 16:50	01/18/17 02:42	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1	01/17/17 16:50	01/18/17 02:42	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB37-SS-75** Lab ID: **10376141003** Collected: 01/12/17 12:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	27.0	%	0.10	0.10	1		01/27/17 13:14		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.3	ug/kg	65.2	27.3	1	01/17/17 16:50	01/18/17 03:15	71-55-6	
1,1,2,2-Tetrachloroethane	<14.5	ug/kg	65.2	14.5	1	01/17/17 16:50	01/18/17 03:15	79-34-5	
1,1,2-Trichloroethane	<14.1	ug/kg	65.2	14.1	1	01/17/17 16:50	01/18/17 03:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<46.9	ug/kg	261	46.9	1	01/17/17 16:50	01/18/17 03:15	76-13-1	
1,1-Dichloroethane	<25.3	ug/kg	65.2	25.3	1	01/17/17 16:50	01/18/17 03:15	75-34-3	
1,1-Dichloroethene	<16.6	ug/kg	65.2	16.6	1	01/17/17 16:50	01/18/17 03:15	75-35-4	
1,2,4-Trichlorobenzene	<20.1	ug/kg	65.2	20.1	1	01/17/17 16:50	01/18/17 03:15	120-82-1	
1,2,4-Trimethylbenzene	<14.3	ug/kg	65.2	14.3	1	01/17/17 16:50	01/18/17 03:15	95-63-6	
1,2-Dibromoethane (EDB)	<24.5	ug/kg	65.2	24.5	1	01/17/17 16:50	01/18/17 03:15	106-93-4	
1,2-Dichlorobenzene	<12.6	ug/kg	65.2	12.6	1	01/17/17 16:50	01/18/17 03:15	95-50-1	
1,2-Dichloroethane	<20.6	ug/kg	65.2	20.6	1	01/17/17 16:50	01/18/17 03:15	107-06-2	
1,3,5-Trimethylbenzene	<15.0	ug/kg	65.2	15.0	1	01/17/17 16:50	01/18/17 03:15	108-67-8	
1,3-Dichlorobenzene	<12.6	ug/kg	65.2	12.6	1	01/17/17 16:50	01/18/17 03:15	541-73-1	
1,4-Dichlorobenzene	<18.9	ug/kg	65.2	18.9	1	01/17/17 16:50	01/18/17 03:15	106-46-7	
2-Butanone (MEK)	<86.1	ug/kg	326	86.1	1	01/17/17 16:50	01/18/17 03:15	78-93-3	
2-Hexanone	<76.8	ug/kg	326	76.8	1	01/17/17 16:50	01/18/17 03:15	591-78-6	
4-Methyl-2-pentanone (MIBK)	<43.2	ug/kg	326	43.2	1	01/17/17 16:50	01/18/17 03:15	108-10-1	
Acetone	<428	ug/kg	1300	428	1	01/17/17 16:50	01/18/17 03:15	67-64-1	
Benzene	<5.6	ug/kg	26.1	5.6	1	01/17/17 16:50	01/18/17 03:15	71-43-2	
Bromodichloromethane	<18.3	ug/kg	65.2	18.3	1	01/17/17 16:50	01/18/17 03:15	75-27-4	
Bromoform	<56.2	ug/kg	261	56.2	1	01/17/17 16:50	01/18/17 03:15	75-25-2	
Bromomethane	<66.1	ug/kg	652	66.1	1	01/17/17 16:50	01/18/17 03:15	74-83-9	
Carbon tetrachloride	<20.5	ug/kg	65.2	20.5	1	01/17/17 16:50	01/18/17 03:15	56-23-5	
Chlorobenzene	<11.3	ug/kg	65.2	11.3	1	01/17/17 16:50	01/18/17 03:15	108-90-7	
Chloroethane	<103	ug/kg	652	103	1	01/17/17 16:50	01/18/17 03:15	75-00-3	
Chloroform	<31.7	ug/kg	65.2	31.7	1	01/17/17 16:50	01/18/17 03:15	67-66-3	
Chloromethane	<31.6	ug/kg	261	31.6	1	01/17/17 16:50	01/18/17 03:15	74-87-3	
Dibromochloromethane	<55.9	ug/kg	261	55.9	1	01/17/17 16:50	01/18/17 03:15	124-48-1	
Dichlorodifluoromethane	<20.0	ug/kg	261	20.0	1	01/17/17 16:50	01/18/17 03:15	75-71-8	
Ethylbenzene	<20.7	ug/kg	65.2	20.7	1	01/17/17 16:50	01/18/17 03:15	100-41-4	
Hexachloro-1,3-butadiene	<61.3	ug/kg	326	61.3	1	01/17/17 16:50	01/18/17 03:15	87-68-3	
Methyl-tert-butyl ether	<12.2	ug/kg	65.2	12.2	1	01/17/17 16:50	01/18/17 03:15	1634-04-4	
Methylene Chloride	<121	ug/kg	261	121	1	01/17/17 16:50	01/18/17 03:15	75-09-2	
Naphthalene	<15.8	ug/kg	261	15.8	1	01/17/17 16:50	01/18/17 03:15	91-20-3	
Styrene	<17.0	ug/kg	65.2	17.0	1	01/17/17 16:50	01/18/17 03:15	100-42-5	
Tetrachloroethene	<24.9	ug/kg	65.2	24.9	1	01/17/17 16:50	01/18/17 03:15	127-18-4	
Tetrahydrofuran	<323	ug/kg	2610	323	1	01/17/17 16:50	01/18/17 03:15	109-99-9	
Toluene	<20.7	ug/kg	65.2	20.7	1	01/17/17 16:50	01/18/17 03:15	108-88-3	
Trichloroethene	<18.6	ug/kg	65.2	18.6	1	01/17/17 16:50	01/18/17 03:15	79-01-6	
Trichlorofluoromethane	<65.5	ug/kg	261	65.5	1	01/17/17 16:50	01/18/17 03:15	75-69-4	
Vinyl acetate	<69.0	ug/kg	652	69.0	1	01/17/17 16:50	01/18/17 03:15	108-05-4	
Vinyl chloride	<8.4	ug/kg	26.1	8.4	1	01/17/17 16:50	01/18/17 03:15	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-SS-75 **Lab ID: 10376141003** Collected: 01/12/17 12:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.3	ug/kg	65.2	24.3	1	01/17/17 16:50	01/18/17 03:15	156-59-2	
cis-1,3-Dichloropropene	<29.7	ug/kg	65.2	29.7	1	01/17/17 16:50	01/18/17 03:15	10061-01-5	
m&p-Xylene	<32.7	ug/kg	130	32.7	1	01/17/17 16:50	01/18/17 03:15	179601-23-1	
o-Xylene	<19.4	ug/kg	65.2	19.4	1	01/17/17 16:50	01/18/17 03:15	95-47-6	
trans-1,2-Dichloroethene	<31.4	ug/kg	65.2	31.4	1	01/17/17 16:50	01/18/17 03:15	156-60-5	
trans-1,3-Dichloropropene	<22.2	ug/kg	261	22.2	1	01/17/17 16:50	01/18/17 03:15	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-129		1	01/17/17 16:50	01/18/17 03:15	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/17/17 16:50	01/18/17 03:15	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/17/17 16:50	01/18/17 03:15	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB37-SS-80** Lab ID: **10376141004** Collected: 01/12/17 12:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	15.8	%	0.10	0.10	1		01/27/17 13:14		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.0	ug/kg	62.3	26.0	1	01/19/17 11:46	01/19/17 15:26	71-55-6	
1,1,2,2-Tetrachloroethane	<13.8	ug/kg	62.3	13.8	1	01/19/17 11:46	01/19/17 15:26	79-34-5	
1,1,2-Trichloroethane	<13.5	ug/kg	62.3	13.5	1	01/19/17 11:46	01/19/17 15:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.8	ug/kg	249	44.8	1	01/19/17 11:46	01/19/17 15:26	76-13-1	
1,1-Dichloroethane	<24.2	ug/kg	62.3	24.2	1	01/19/17 11:46	01/19/17 15:26	75-34-3	
1,1-Dichloroethene	<15.8	ug/kg	62.3	15.8	1	01/19/17 11:46	01/19/17 15:26	75-35-4	
1,2,4-Trichlorobenzene	<19.2	ug/kg	62.3	19.2	1	01/19/17 11:46	01/19/17 15:26	120-82-1	
1,2,4-Trimethylbenzene	<13.7	ug/kg	62.3	13.7	1	01/19/17 11:46	01/19/17 15:26	95-63-6	
1,2-Dibromoethane (EDB)	<23.4	ug/kg	62.3	23.4	1	01/19/17 11:46	01/19/17 15:26	106-93-4	
1,2-Dichlorobenzene	<12.0	ug/kg	62.3	12.0	1	01/19/17 11:46	01/19/17 15:26	95-50-1	
1,2-Dichloroethane	<19.7	ug/kg	62.3	19.7	1	01/19/17 11:46	01/19/17 15:26	107-06-2	
1,3,5-Trimethylbenzene	<14.3	ug/kg	62.3	14.3	1	01/19/17 11:46	01/19/17 15:26	108-67-8	
1,3-Dichlorobenzene	<12.0	ug/kg	62.3	12.0	1	01/19/17 11:46	01/19/17 15:26	541-73-1	
1,4-Dichlorobenzene	<18.1	ug/kg	62.3	18.1	1	01/19/17 11:46	01/19/17 15:26	106-46-7	
2-Butanone (MEK)	<82.2	ug/kg	311	82.2	1	01/19/17 11:46	01/19/17 15:26	78-93-3	
2-Hexanone	<73.4	ug/kg	311	73.4	1	01/19/17 11:46	01/19/17 15:26	591-78-6	
4-Methyl-2-pentanone (MIBK)	<41.2	ug/kg	311	41.2	1	01/19/17 11:46	01/19/17 15:26	108-10-1	
Acetone	<409	ug/kg	1250	409	1	01/19/17 11:46	01/19/17 15:26	67-64-1	
Benzene	<5.4	ug/kg	24.9	5.4	1	01/19/17 11:46	01/19/17 15:26	71-43-2	
Bromodichloromethane	<17.4	ug/kg	62.3	17.4	1	01/19/17 11:46	01/19/17 15:26	75-27-4	
Bromoform	<53.7	ug/kg	249	53.7	1	01/19/17 11:46	01/19/17 15:26	75-25-2	
Bromomethane	<63.1	ug/kg	623	63.1	1	01/19/17 11:46	01/19/17 15:26	74-83-9	
Carbon tetrachloride	<19.6	ug/kg	62.3	19.6	1	01/19/17 11:46	01/19/17 15:26	56-23-5	
Chlorobenzene	<10.8	ug/kg	62.3	10.8	1	01/19/17 11:46	01/19/17 15:26	108-90-7	
Chloroethane	<98.4	ug/kg	623	98.4	1	01/19/17 11:46	01/19/17 15:26	75-00-3	
Chloroform	<30.3	ug/kg	62.3	30.3	1	01/19/17 11:46	01/19/17 15:26	67-66-3	
Chloromethane	<30.1	ug/kg	249	30.1	1	01/19/17 11:46	01/19/17 15:26	74-87-3	
Dibromochloromethane	<53.4	ug/kg	249	53.4	1	01/19/17 11:46	01/19/17 15:26	124-48-1	
Dichlorodifluoromethane	<19.1	ug/kg	249	19.1	1	01/19/17 11:46	01/19/17 15:26	75-71-8	
Ethylbenzene	<19.8	ug/kg	62.3	19.8	1	01/19/17 11:46	01/19/17 15:26	100-41-4	
Hexachloro-1,3-butadiene	<58.5	ug/kg	311	58.5	1	01/19/17 11:46	01/19/17 15:26	87-68-3	
Methyl-tert-butyl ether	<11.7	ug/kg	62.3	11.7	1	01/19/17 11:46	01/19/17 15:26	1634-04-4	
Methylene Chloride	<115	ug/kg	249	115	1	01/19/17 11:46	01/19/17 15:26	75-09-2	
Naphthalene	<15.1	ug/kg	249	15.1	1	01/19/17 11:46	01/19/17 15:26	91-20-3	
Styrene	<16.2	ug/kg	62.3	16.2	1	01/19/17 11:46	01/19/17 15:26	100-42-5	
Tetrachloroethene	<23.8	ug/kg	62.3	23.8	1	01/19/17 11:46	01/19/17 15:26	127-18-4	
Tetrahydrofuran	<309	ug/kg	2490	309	1	01/19/17 11:46	01/19/17 15:26	109-99-9	
Toluene	22.3J	ug/kg	62.3	19.8	1	01/19/17 11:46	01/19/17 15:26	108-88-3	
Trichloroethene	<17.8	ug/kg	62.3	17.8	1	01/19/17 11:46	01/19/17 15:26	79-01-6	
Trichlorofluoromethane	<62.5	ug/kg	249	62.5	1	01/19/17 11:46	01/19/17 15:26	75-69-4	
Vinyl acetate	<65.9	ug/kg	623	65.9	1	01/19/17 11:46	01/19/17 15:26	108-05-4	
Vinyl chloride	<8.0	ug/kg	24.9	8.0	1	01/19/17 11:46	01/19/17 15:26	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-SS-80 **Lab ID: 10376141004** Collected: 01/12/17 12:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.2	ug/kg	62.3	23.2	1	01/19/17 11:46	01/19/17 15:26	156-59-2	
cis-1,3-Dichloropropene	<28.4	ug/kg	62.3	28.4	1	01/19/17 11:46	01/19/17 15:26	10061-01-5	
m&p-Xylene	<31.3	ug/kg	125	31.3	1	01/19/17 11:46	01/19/17 15:26	179601-23-1	
o-Xylene	<18.6	ug/kg	62.3	18.6	1	01/19/17 11:46	01/19/17 15:26	95-47-6	
trans-1,2-Dichloroethene	<30.0	ug/kg	62.3	30.0	1	01/19/17 11:46	01/19/17 15:26	156-60-5	
trans-1,3-Dichloropropene	<21.2	ug/kg	249	21.2	1	01/19/17 11:46	01/19/17 15:26	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	86	%	75-129		1	01/19/17 11:46	01/19/17 15:26	17060-07-0	
Toluene-d8 (S)	94	%	75-125		1	01/19/17 11:46	01/19/17 15:26	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/19/17 11:46	01/19/17 15:26	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB37-GW-81** Lab ID: **10376141005** Collected: 01/12/17 12:45 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 20:10	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/19/17 20:10	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 20:10	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 20:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/19/17 20:10	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 20:10	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/19/17 20:10	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/19/17 20:10	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/19/17 20:10	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/19/17 20:10	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/19/17 20:10	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/19/17 20:10	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/19/17 20:10	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/19/17 20:10	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/19/17 20:10	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/19/17 20:10	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/19/17 20:10	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/19/17 20:10	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/19/17 20:10	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/19/17 20:10	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/19/17 20:10	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/19/17 20:10	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/19/17 20:10	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/19/17 20:10	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/19/17 20:10	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/19/17 20:10	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/19/17 20:10	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/19/17 20:10	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/19/17 20:10	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/19/17 20:10	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/19/17 20:10	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/19/17 20:10	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/19/17 20:10	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/19/17 20:10	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/19/17 20:10	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/19/17 20:10	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/19/17 20:10	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/19/17 20:10	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/19/17 20:10	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/19/17 20:10	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/19/17 20:10	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/19/17 20:10	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/19/17 20:10	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/19/17 20:10	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/19/17 20:10	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/19/17 20:10	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-GW-81 **Lab ID: 10376141005** Collected: 01/12/17 12:45 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/19/17 20:10	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/19/17 20:10	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/19/17 20:10	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/19/17 20:10	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/19/17 20:10	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/19/17 20:10	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/19/17 20:10	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/19/17 20:10	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/19/17 20:10	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/19/17 20:10	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/19/17 20:10	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/19/17 20:10	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/19/17 20:10	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/19/17 20:10	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/19/17 20:10	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/19/17 20:10	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/19/17 20:10	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/19/17 20:10	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/19/17 20:10	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/19/17 20:10	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/19/17 20:10	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/19/17 20:10	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/19/17 20:10	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/19/17 20:10	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/19/17 20:10	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/19/17 20:10	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/19/17 20:10	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/19/17 20:10	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/19/17 20:10	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/19/17 20:10	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/19/17 20:10	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/19/17 20:10	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/19/17 20:10	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/19/17 20:10	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		01/19/17 20:10	17060-07-0	
Toluene-d8 (S)	94	%	75-125		1		01/19/17 20:10	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		01/19/17 20:10	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-10** Lab ID: **10376141006** Collected: 01/12/17 15:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	13.6	%	0.10	0.10	1		01/27/17 13:15		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.4	ug/kg	63.1	26.4	1	01/19/17 11:46	01/19/17 15:42	71-55-6	
1,1,2,2-Tetrachloroethane	<14.0	ug/kg	63.1	14.0	1	01/19/17 11:46	01/19/17 15:42	79-34-5	
1,1,2-Trichloroethane	<13.6	ug/kg	63.1	13.6	1	01/19/17 11:46	01/19/17 15:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	<45.4	ug/kg	252	45.4	1	01/19/17 11:46	01/19/17 15:42	76-13-1	
1,1-Dichloroethane	<24.5	ug/kg	63.1	24.5	1	01/19/17 11:46	01/19/17 15:42	75-34-3	
1,1-Dichloroethene	<16.0	ug/kg	63.1	16.0	1	01/19/17 11:46	01/19/17 15:42	75-35-4	
1,2,4-Trichlorobenzene	<19.4	ug/kg	63.1	19.4	1	01/19/17 11:46	01/19/17 15:42	120-82-1	
1,2,4-Trimethylbenzene	<13.9	ug/kg	63.1	13.9	1	01/19/17 11:46	01/19/17 15:42	95-63-6	
1,2-Dibromoethane (EDB)	<23.7	ug/kg	63.1	23.7	1	01/19/17 11:46	01/19/17 15:42	106-93-4	
1,2-Dichlorobenzene	<12.2	ug/kg	63.1	12.2	1	01/19/17 11:46	01/19/17 15:42	95-50-1	
1,2-Dichloroethane	<19.9	ug/kg	63.1	19.9	1	01/19/17 11:46	01/19/17 15:42	107-06-2	
1,3,5-Trimethylbenzene	<14.5	ug/kg	63.1	14.5	1	01/19/17 11:46	01/19/17 15:42	108-67-8	
1,3-Dichlorobenzene	<12.2	ug/kg	63.1	12.2	1	01/19/17 11:46	01/19/17 15:42	541-73-1	
1,4-Dichlorobenzene	<18.3	ug/kg	63.1	18.3	1	01/19/17 11:46	01/19/17 15:42	106-46-7	
2-Butanone (MEK)	<83.3	ug/kg	315	83.3	1	01/19/17 11:46	01/19/17 15:42	78-93-3	
2-Hexanone	<74.3	ug/kg	315	74.3	1	01/19/17 11:46	01/19/17 15:42	591-78-6	
4-Methyl-2-pentanone (MIBK)	<41.8	ug/kg	315	41.8	1	01/19/17 11:46	01/19/17 15:42	108-10-1	
Acetone	<414	ug/kg	1260	414	1	01/19/17 11:46	01/19/17 15:42	67-64-1	
Benzene	<5.5	ug/kg	25.2	5.5	1	01/19/17 11:46	01/19/17 15:42	71-43-2	
Bromodichloromethane	<17.7	ug/kg	63.1	17.7	1	01/19/17 11:46	01/19/17 15:42	75-27-4	
Bromoform	<54.4	ug/kg	252	54.4	1	01/19/17 11:46	01/19/17 15:42	75-25-2	
Bromomethane	<64.0	ug/kg	631	64.0	1	01/19/17 11:46	01/19/17 15:42	74-83-9	
Carbon tetrachloride	<19.8	ug/kg	63.1	19.8	1	01/19/17 11:46	01/19/17 15:42	56-23-5	
Chlorobenzene	<11.0	ug/kg	63.1	11.0	1	01/19/17 11:46	01/19/17 15:42	108-90-7	
Chloroethane	<99.7	ug/kg	631	99.7	1	01/19/17 11:46	01/19/17 15:42	75-00-3	
Chloroform	<30.7	ug/kg	63.1	30.7	1	01/19/17 11:46	01/19/17 15:42	67-66-3	
Chloromethane	<30.5	ug/kg	252	30.5	1	01/19/17 11:46	01/19/17 15:42	74-87-3	
Dibromochloromethane	<54.1	ug/kg	252	54.1	1	01/19/17 11:46	01/19/17 15:42	124-48-1	
Dichlorodifluoromethane	<19.3	ug/kg	252	19.3	1	01/19/17 11:46	01/19/17 15:42	75-71-8	
Ethylbenzene	<20.1	ug/kg	63.1	20.1	1	01/19/17 11:46	01/19/17 15:42	100-41-4	
Hexachloro-1,3-butadiene	<59.3	ug/kg	315	59.3	1	01/19/17 11:46	01/19/17 15:42	87-68-3	
Methyl-tert-butyl ether	<11.8	ug/kg	63.1	11.8	1	01/19/17 11:46	01/19/17 15:42	1634-04-4	
Methylene Chloride	<117	ug/kg	252	117	1	01/19/17 11:46	01/19/17 15:42	75-09-2	
Naphthalene	<15.3	ug/kg	252	15.3	1	01/19/17 11:46	01/19/17 15:42	91-20-3	
Styrene	<16.4	ug/kg	63.1	16.4	1	01/19/17 11:46	01/19/17 15:42	100-42-5	
Tetrachloroethene	<24.1	ug/kg	63.1	24.1	1	01/19/17 11:46	01/19/17 15:42	127-18-4	
Tetrahydrofuran	<313	ug/kg	2520	313	1	01/19/17 11:46	01/19/17 15:42	109-99-9	
Toluene	<20.1	ug/kg	63.1	20.1	1	01/19/17 11:46	01/19/17 15:42	108-88-3	
Trichloroethene	<18.0	ug/kg	63.1	18.0	1	01/19/17 11:46	01/19/17 15:42	79-01-6	
Trichlorofluoromethane	<63.3	ug/kg	252	63.3	1	01/19/17 11:46	01/19/17 15:42	75-69-4	
Vinyl acetate	<66.8	ug/kg	631	66.8	1	01/19/17 11:46	01/19/17 15:42	108-05-4	
Vinyl chloride	<8.1	ug/kg	25.2	8.1	1	01/19/17 11:46	01/19/17 15:42	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-10 **Lab ID: 10376141006** Collected: 01/12/17 15:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.5	ug/kg	63.1	23.5	1	01/19/17 11:46	01/19/17 15:42	156-59-2	
cis-1,3-Dichloropropene	<28.8	ug/kg	63.1	28.8	1	01/19/17 11:46	01/19/17 15:42	10061-01-5	
m&p-Xylene	<31.7	ug/kg	126	31.7	1	01/19/17 11:46	01/19/17 15:42	179601-23-1	
o-Xylene	<18.8	ug/kg	63.1	18.8	1	01/19/17 11:46	01/19/17 15:42	95-47-6	
trans-1,2-Dichloroethene	<30.4	ug/kg	63.1	30.4	1	01/19/17 11:46	01/19/17 15:42	156-60-5	
trans-1,3-Dichloropropene	<21.5	ug/kg	252	21.5	1	01/19/17 11:46	01/19/17 15:42	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/19/17 11:46	01/19/17 15:42	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1	01/19/17 11:46	01/19/17 15:42	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/19/17 11:46	01/19/17 15:42	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-20** Lab ID: **10376141007** Collected: 01/12/17 15:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	21.9	%	0.10	0.10	1		01/27/17 13:15		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.2	ug/kg	65.1	27.2	1	01/19/17 11:46	01/19/17 19:28	71-55-6	
1,1,2,2-Tetrachloroethane	<14.5	ug/kg	65.1	14.5	1	01/19/17 11:46	01/19/17 19:28	79-34-5	
1,1,2-Trichloroethane	<14.1	ug/kg	65.1	14.1	1	01/19/17 11:46	01/19/17 19:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<46.9	ug/kg	261	46.9	1	01/19/17 11:46	01/19/17 19:28	76-13-1	
1,1-Dichloroethane	<25.3	ug/kg	65.1	25.3	1	01/19/17 11:46	01/19/17 19:28	75-34-3	
1,1-Dichloroethene	<16.5	ug/kg	65.1	16.5	1	01/19/17 11:46	01/19/17 19:28	75-35-4	
1,2,4-Trichlorobenzene	<20.1	ug/kg	65.1	20.1	1	01/19/17 11:46	01/19/17 19:28	120-82-1	
1,2,4-Trimethylbenzene	<14.3	ug/kg	65.1	14.3	1	01/19/17 11:46	01/19/17 19:28	95-63-6	
1,2-Dibromoethane (EDB)	<24.5	ug/kg	65.1	24.5	1	01/19/17 11:46	01/19/17 19:28	106-93-4	
1,2-Dichlorobenzene	<12.6	ug/kg	65.1	12.6	1	01/19/17 11:46	01/19/17 19:28	95-50-1	
1,2-Dichloroethane	<20.6	ug/kg	65.1	20.6	1	01/19/17 11:46	01/19/17 19:28	107-06-2	
1,3,5-Trimethylbenzene	<15.0	ug/kg	65.1	15.0	1	01/19/17 11:46	01/19/17 19:28	108-67-8	
1,3-Dichlorobenzene	<12.6	ug/kg	65.1	12.6	1	01/19/17 11:46	01/19/17 19:28	541-73-1	
1,4-Dichlorobenzene	<18.9	ug/kg	65.1	18.9	1	01/19/17 11:46	01/19/17 19:28	106-46-7	
2-Butanone (MEK)	<86.0	ug/kg	326	86.0	1	01/19/17 11:46	01/19/17 19:28	78-93-3	
2-Hexanone	<76.7	ug/kg	326	76.7	1	01/19/17 11:46	01/19/17 19:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<43.1	ug/kg	326	43.1	1	01/19/17 11:46	01/19/17 19:28	108-10-1	
Acetone	<427	ug/kg	1300	427	1	01/19/17 11:46	01/19/17 19:28	67-64-1	
Benzene	<5.6	ug/kg	26.1	5.6	1	01/19/17 11:46	01/19/17 19:28	71-43-2	
Bromodichloromethane	<18.2	ug/kg	65.1	18.2	1	01/19/17 11:46	01/19/17 19:28	75-27-4	
Bromoform	<56.1	ug/kg	261	56.1	1	01/19/17 11:46	01/19/17 19:28	75-25-2	
Bromomethane	<66.0	ug/kg	651	66.0	1	01/19/17 11:46	01/19/17 19:28	74-83-9	
Carbon tetrachloride	<20.5	ug/kg	65.1	20.5	1	01/19/17 11:46	01/19/17 19:28	56-23-5	
Chlorobenzene	<11.3	ug/kg	65.1	11.3	1	01/19/17 11:46	01/19/17 19:28	108-90-7	
Chloroethane	<103	ug/kg	651	103	1	01/19/17 11:46	01/19/17 19:28	75-00-3	
Chloroform	<31.7	ug/kg	65.1	31.7	1	01/19/17 11:46	01/19/17 19:28	67-66-3	
Chloromethane	<31.5	ug/kg	261	31.5	1	01/19/17 11:46	01/19/17 19:28	74-87-3	
Dibromochloromethane	<55.9	ug/kg	261	55.9	1	01/19/17 11:46	01/19/17 19:28	124-48-1	
Dichlorodifluoromethane	<19.9	ug/kg	261	19.9	1	01/19/17 11:46	01/19/17 19:28	75-71-8	
Ethylbenzene	<20.7	ug/kg	65.1	20.7	1	01/19/17 11:46	01/19/17 19:28	100-41-4	
Hexachloro-1,3-butadiene	<61.2	ug/kg	326	61.2	1	01/19/17 11:46	01/19/17 19:28	87-68-3	
Methyl-tert-butyl ether	<12.2	ug/kg	65.1	12.2	1	01/19/17 11:46	01/19/17 19:28	1634-04-4	
Methylene Chloride	<121	ug/kg	261	121	1	01/19/17 11:46	01/19/17 19:28	75-09-2	
Naphthalene	<15.8	ug/kg	261	15.8	1	01/19/17 11:46	01/19/17 19:28	91-20-3	
Styrene	<16.9	ug/kg	65.1	16.9	1	01/19/17 11:46	01/19/17 19:28	100-42-5	
Tetrachloroethene	<24.9	ug/kg	65.1	24.9	1	01/19/17 11:46	01/19/17 19:28	127-18-4	
Tetrahydrofuran	<323	ug/kg	2610	323	1	01/19/17 11:46	01/19/17 19:28	109-99-9	
Toluene	<20.7	ug/kg	65.1	20.7	1	01/19/17 11:46	01/19/17 19:28	108-88-3	
Trichloroethene	<18.6	ug/kg	65.1	18.6	1	01/19/17 11:46	01/19/17 19:28	79-01-6	
Trichlorofluoromethane	<65.4	ug/kg	261	65.4	1	01/19/17 11:46	01/19/17 19:28	75-69-4	
Vinyl acetate	<68.9	ug/kg	651	68.9	1	01/19/17 11:46	01/19/17 19:28	108-05-4	
Vinyl chloride	<8.4	ug/kg	26.1	8.4	1	01/19/17 11:46	01/19/17 19:28	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-20 **Lab ID: 10376141007** Collected: 01/12/17 15:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.2	ug/kg	65.1	24.2	1	01/19/17 11:46	01/19/17 19:28	156-59-2	
cis-1,3-Dichloropropene	<29.7	ug/kg	65.1	29.7	1	01/19/17 11:46	01/19/17 19:28	10061-01-5	
m&p-Xylene	<32.7	ug/kg	130	32.7	1	01/19/17 11:46	01/19/17 19:28	179601-23-1	
o-Xylene	<19.4	ug/kg	65.1	19.4	1	01/19/17 11:46	01/19/17 19:28	95-47-6	
trans-1,2-Dichloroethene	<31.4	ug/kg	65.1	31.4	1	01/19/17 11:46	01/19/17 19:28	156-60-5	
trans-1,3-Dichloropropene	<22.1	ug/kg	261	22.1	1	01/19/17 11:46	01/19/17 19:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	86	%	75-129		1	01/19/17 11:46	01/19/17 19:28	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/19/17 11:46	01/19/17 19:28	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/19/17 11:46	01/19/17 19:28	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-25** Lab ID: **10376141008** Collected: 01/12/17 15:40 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	16.1	%	0.10	0.10	1		01/27/17 13:15		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.4	ug/kg	63.2	26.4	1	01/19/17 11:46	01/19/17 15:58	71-55-6	
1,1,2,2-Tetrachloroethane	<14.0	ug/kg	63.2	14.0	1	01/19/17 11:46	01/19/17 15:58	79-34-5	
1,1,2-Trichloroethane	<13.7	ug/kg	63.2	13.7	1	01/19/17 11:46	01/19/17 15:58	79-00-5	
1,1,2-Trichlorotrifluoroethane	<45.5	ug/kg	253	45.5	1	01/19/17 11:46	01/19/17 15:58	76-13-1	
1,1-Dichloroethane	<24.5	ug/kg	63.2	24.5	1	01/19/17 11:46	01/19/17 15:58	75-34-3	
1,1-Dichloroethene	<16.1	ug/kg	63.2	16.1	1	01/19/17 11:46	01/19/17 15:58	75-35-4	
1,2,4-Trichlorobenzene	<19.5	ug/kg	63.2	19.5	1	01/19/17 11:46	01/19/17 15:58	120-82-1	
1,2,4-Trimethylbenzene	<13.9	ug/kg	63.2	13.9	1	01/19/17 11:46	01/19/17 15:58	95-63-6	
1,2-Dibromoethane (EDB)	<23.8	ug/kg	63.2	23.8	1	01/19/17 11:46	01/19/17 15:58	106-93-4	
1,2-Dichlorobenzene	<12.2	ug/kg	63.2	12.2	1	01/19/17 11:46	01/19/17 15:58	95-50-1	
1,2-Dichloroethane	<20.0	ug/kg	63.2	20.0	1	01/19/17 11:46	01/19/17 15:58	107-06-2	
1,3,5-Trimethylbenzene	<14.5	ug/kg	63.2	14.5	1	01/19/17 11:46	01/19/17 15:58	108-67-8	
1,3-Dichlorobenzene	<12.2	ug/kg	63.2	12.2	1	01/19/17 11:46	01/19/17 15:58	541-73-1	
1,4-Dichlorobenzene	<18.3	ug/kg	63.2	18.3	1	01/19/17 11:46	01/19/17 15:58	106-46-7	
2-Butanone (MEK)	<83.4	ug/kg	316	83.4	1	01/19/17 11:46	01/19/17 15:58	78-93-3	
2-Hexanone	<74.4	ug/kg	316	74.4	1	01/19/17 11:46	01/19/17 15:58	591-78-6	
4-Methyl-2-pentanone (MIBK)	<41.8	ug/kg	316	41.8	1	01/19/17 11:46	01/19/17 15:58	108-10-1	
Acetone	<415	ug/kg	1260	415	1	01/19/17 11:46	01/19/17 15:58	67-64-1	
Benzene	<5.5	ug/kg	25.3	5.5	1	01/19/17 11:46	01/19/17 15:58	71-43-2	
Bromodichloromethane	<17.7	ug/kg	63.2	17.7	1	01/19/17 11:46	01/19/17 15:58	75-27-4	
Bromoform	<54.5	ug/kg	253	54.5	1	01/19/17 11:46	01/19/17 15:58	75-25-2	
Bromomethane	<64.1	ug/kg	632	64.1	1	01/19/17 11:46	01/19/17 15:58	74-83-9	
Carbon tetrachloride	<19.8	ug/kg	63.2	19.8	1	01/19/17 11:46	01/19/17 15:58	56-23-5	
Chlorobenzene	<11.0	ug/kg	63.2	11.0	1	01/19/17 11:46	01/19/17 15:58	108-90-7	
Chloroethane	<99.9	ug/kg	632	99.9	1	01/19/17 11:46	01/19/17 15:58	75-00-3	
Chloroform	<30.7	ug/kg	63.2	30.7	1	01/19/17 11:46	01/19/17 15:58	67-66-3	
Chloromethane	<30.6	ug/kg	253	30.6	1	01/19/17 11:46	01/19/17 15:58	74-87-3	
Dibromochloromethane	<54.2	ug/kg	253	54.2	1	01/19/17 11:46	01/19/17 15:58	124-48-1	
Dichlorodifluoromethane	<19.3	ug/kg	253	19.3	1	01/19/17 11:46	01/19/17 15:58	75-71-8	
Ethylbenzene	<20.1	ug/kg	63.2	20.1	1	01/19/17 11:46	01/19/17 15:58	100-41-4	
Hexachloro-1,3-butadiene	<59.4	ug/kg	316	59.4	1	01/19/17 11:46	01/19/17 15:58	87-68-3	
Methyl-tert-butyl ether	<11.8	ug/kg	63.2	11.8	1	01/19/17 11:46	01/19/17 15:58	1634-04-4	
Methylene Chloride	<117	ug/kg	253	117	1	01/19/17 11:46	01/19/17 15:58	75-09-2	
Naphthalene	<15.3	ug/kg	253	15.3	1	01/19/17 11:46	01/19/17 15:58	91-20-3	
Styrene	<16.4	ug/kg	63.2	16.4	1	01/19/17 11:46	01/19/17 15:58	100-42-5	
Tetrachloroethene	<24.1	ug/kg	63.2	24.1	1	01/19/17 11:46	01/19/17 15:58	127-18-4	
Tetrahydrofuran	<313	ug/kg	2530	313	1	01/19/17 11:46	01/19/17 15:58	109-99-9	
Toluene	<20.1	ug/kg	63.2	20.1	1	01/19/17 11:46	01/19/17 15:58	108-88-3	
Trichloroethene	<18.1	ug/kg	63.2	18.1	1	01/19/17 11:46	01/19/17 15:58	79-01-6	
Trichlorofluoromethane	<63.4	ug/kg	253	63.4	1	01/19/17 11:46	01/19/17 15:58	75-69-4	
Vinyl acetate	<66.9	ug/kg	632	66.9	1	01/19/17 11:46	01/19/17 15:58	108-05-4	
Vinyl chloride	<8.1	ug/kg	25.3	8.1	1	01/19/17 11:46	01/19/17 15:58	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-25 **Lab ID: 10376141008** Collected: 01/12/17 15:40 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.5	ug/kg	63.2	23.5	1	01/19/17 11:46	01/19/17 15:58	156-59-2	
cis-1,3-Dichloropropene	<28.8	ug/kg	63.2	28.8	1	01/19/17 11:46	01/19/17 15:58	10061-01-5	
m&p-Xylene	<31.7	ug/kg	126	31.7	1	01/19/17 11:46	01/19/17 15:58	179601-23-1	
o-Xylene	<18.8	ug/kg	63.2	18.8	1	01/19/17 11:46	01/19/17 15:58	95-47-6	
trans-1,2-Dichloroethene	<30.5	ug/kg	63.2	30.5	1	01/19/17 11:46	01/19/17 15:58	156-60-5	
trans-1,3-Dichloropropene	<21.5	ug/kg	253	21.5	1	01/19/17 11:46	01/19/17 15:58	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/19/17 11:46	01/19/17 15:58	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/19/17 11:46	01/19/17 15:58	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1	01/19/17 11:46	01/19/17 15:58	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SSFD-4 **Lab ID: 10376141009** Collected: 01/12/17 15:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	13.8	%	0.10	0.10	1		01/27/17 13:16		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.5	ug/kg	56.3	23.5	1	01/19/17 11:46	01/19/17 16:14	71-55-6	
1,1,2,2-Tetrachloroethane	<12.5	ug/kg	56.3	12.5	1	01/19/17 11:46	01/19/17 16:14	79-34-5	
1,1,2-Trichloroethane	<12.2	ug/kg	56.3	12.2	1	01/19/17 11:46	01/19/17 16:14	79-00-5	
1,1,2-Trichlorotrifluoroethane	<40.6	ug/kg	225	40.6	1	01/19/17 11:46	01/19/17 16:14	76-13-1	
1,1-Dichloroethane	<21.9	ug/kg	56.3	21.9	1	01/19/17 11:46	01/19/17 16:14	75-34-3	
1,1-Dichloroethene	<14.3	ug/kg	56.3	14.3	1	01/19/17 11:46	01/19/17 16:14	75-35-4	
1,2,4-Trichlorobenzene	<17.4	ug/kg	56.3	17.4	1	01/19/17 11:46	01/19/17 16:14	120-82-1	
1,2,4-Trimethylbenzene	<12.4	ug/kg	56.3	12.4	1	01/19/17 11:46	01/19/17 16:14	95-63-6	
1,2-Dibromoethane (EDB)	<21.2	ug/kg	56.3	21.2	1	01/19/17 11:46	01/19/17 16:14	106-93-4	
1,2-Dichlorobenzene	<10.9	ug/kg	56.3	10.9	1	01/19/17 11:46	01/19/17 16:14	95-50-1	
1,2-Dichloroethane	<17.8	ug/kg	56.3	17.8	1	01/19/17 11:46	01/19/17 16:14	107-06-2	
1,3,5-Trimethylbenzene	<13.0	ug/kg	56.3	13.0	1	01/19/17 11:46	01/19/17 16:14	108-67-8	
1,3-Dichlorobenzene	<10.9	ug/kg	56.3	10.9	1	01/19/17 11:46	01/19/17 16:14	541-73-1	
1,4-Dichlorobenzene	<16.3	ug/kg	56.3	16.3	1	01/19/17 11:46	01/19/17 16:14	106-46-7	
2-Butanone (MEK)	<74.4	ug/kg	282	74.4	1	01/19/17 11:46	01/19/17 16:14	78-93-3	
2-Hexanone	<66.4	ug/kg	282	66.4	1	01/19/17 11:46	01/19/17 16:14	591-78-6	
4-Methyl-2-pentanone (MIBK)	<37.3	ug/kg	282	37.3	1	01/19/17 11:46	01/19/17 16:14	108-10-1	
Acetone	<370	ug/kg	1130	370	1	01/19/17 11:46	01/19/17 16:14	67-64-1	
Benzene	<4.9	ug/kg	22.5	4.9	1	01/19/17 11:46	01/19/17 16:14	71-43-2	
Bromodichloromethane	<15.8	ug/kg	56.3	15.8	1	01/19/17 11:46	01/19/17 16:14	75-27-4	
Bromoform	<48.6	ug/kg	225	48.6	1	01/19/17 11:46	01/19/17 16:14	75-25-2	
Bromomethane	<57.1	ug/kg	563	57.1	1	01/19/17 11:46	01/19/17 16:14	74-83-9	
Carbon tetrachloride	<17.7	ug/kg	56.3	17.7	1	01/19/17 11:46	01/19/17 16:14	56-23-5	
Chlorobenzene	<9.8	ug/kg	56.3	9.8	1	01/19/17 11:46	01/19/17 16:14	108-90-7	
Chloroethane	<89.0	ug/kg	563	89.0	1	01/19/17 11:46	01/19/17 16:14	75-00-3	
Chloroform	<27.4	ug/kg	56.3	27.4	1	01/19/17 11:46	01/19/17 16:14	67-66-3	
Chloromethane	<27.3	ug/kg	225	27.3	1	01/19/17 11:46	01/19/17 16:14	74-87-3	
Dibromochloromethane	<48.3	ug/kg	225	48.3	1	01/19/17 11:46	01/19/17 16:14	124-48-1	
Dichlorodifluoromethane	<17.2	ug/kg	225	17.2	1	01/19/17 11:46	01/19/17 16:14	75-71-8	
Ethylbenzene	<17.9	ug/kg	56.3	17.9	1	01/19/17 11:46	01/19/17 16:14	100-41-4	
Hexachloro-1,3-butadiene	<53.0	ug/kg	282	53.0	1	01/19/17 11:46	01/19/17 16:14	87-68-3	
Methyl-tert-butyl ether	<10.5	ug/kg	56.3	10.5	1	01/19/17 11:46	01/19/17 16:14	1634-04-4	
Methylene Chloride	<104	ug/kg	225	104	1	01/19/17 11:46	01/19/17 16:14	75-09-2	
Naphthalene	<13.6	ug/kg	225	13.6	1	01/19/17 11:46	01/19/17 16:14	91-20-3	
Styrene	<14.6	ug/kg	56.3	14.6	1	01/19/17 11:46	01/19/17 16:14	100-42-5	
Tetrachloroethene	<21.5	ug/kg	56.3	21.5	1	01/19/17 11:46	01/19/17 16:14	127-18-4	
Tetrahydrofuran	<279	ug/kg	2250	279	1	01/19/17 11:46	01/19/17 16:14	109-99-9	
Toluene	<17.9	ug/kg	56.3	17.9	1	01/19/17 11:46	01/19/17 16:14	108-88-3	
Trichloroethene	<16.1	ug/kg	56.3	16.1	1	01/19/17 11:46	01/19/17 16:14	79-01-6	
Trichlorofluoromethane	<56.6	ug/kg	225	56.6	1	01/19/17 11:46	01/19/17 16:14	75-69-4	
Vinyl acetate	<59.6	ug/kg	563	59.6	1	01/19/17 11:46	01/19/17 16:14	108-05-4	
Vinyl chloride	<7.2	ug/kg	22.5	7.2	1	01/19/17 11:46	01/19/17 16:14	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SSFD-4 **Lab ID: 10376141009** Collected: 01/12/17 15:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<21.0	ug/kg	56.3	21.0	1	01/19/17 11:46	01/19/17 16:14	156-59-2	
cis-1,3-Dichloropropene	<25.7	ug/kg	56.3	25.7	1	01/19/17 11:46	01/19/17 16:14	10061-01-5	
m&p-Xylene	<28.3	ug/kg	113	28.3	1	01/19/17 11:46	01/19/17 16:14	179601-23-1	
o-Xylene	<16.8	ug/kg	56.3	16.8	1	01/19/17 11:46	01/19/17 16:14	95-47-6	
trans-1,2-Dichloroethene	<27.2	ug/kg	56.3	27.2	1	01/19/17 11:46	01/19/17 16:14	156-60-5	
trans-1,3-Dichloropropene	<19.2	ug/kg	225	19.2	1	01/19/17 11:46	01/19/17 16:14	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%	75-129		1	01/19/17 11:46	01/19/17 16:14	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1	01/19/17 11:46	01/19/17 16:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/19/17 11:46	01/19/17 16:14	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB37-SS-60** Lab ID: **10376141010** Collected: 01/12/17 09:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	33.6	%	0.10	0.10	1		01/27/17 13:16		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.6	ug/kg	75.7	31.6	1	01/19/17 11:46	01/19/17 16:30	71-55-6	
1,1,2,2-Tetrachloroethane	<16.8	ug/kg	75.7	16.8	1	01/19/17 11:46	01/19/17 16:30	79-34-5	
1,1,2-Trichloroethane	<16.3	ug/kg	75.7	16.3	1	01/19/17 11:46	01/19/17 16:30	79-00-5	
1,1,2-Trichlorotrifluoroethane	<54.5	ug/kg	303	54.5	1	01/19/17 11:46	01/19/17 16:30	76-13-1	
1,1-Dichloroethane	<29.4	ug/kg	75.7	29.4	1	01/19/17 11:46	01/19/17 16:30	75-34-3	
1,1-Dichloroethene	<19.2	ug/kg	75.7	19.2	1	01/19/17 11:46	01/19/17 16:30	75-35-4	
1,2,4-Trichlorobenzene	<23.3	ug/kg	75.7	23.3	1	01/19/17 11:46	01/19/17 16:30	120-82-1	
1,2,4-Trimethylbenzene	<16.6	ug/kg	75.7	16.6	1	01/19/17 11:46	01/19/17 16:30	95-63-6	
1,2-Dibromoethane (EDB)	<28.4	ug/kg	75.7	28.4	1	01/19/17 11:46	01/19/17 16:30	106-93-4	
1,2-Dichlorobenzene	<14.6	ug/kg	75.7	14.6	1	01/19/17 11:46	01/19/17 16:30	95-50-1	
1,2-Dichloroethane	<23.9	ug/kg	75.7	23.9	1	01/19/17 11:46	01/19/17 16:30	107-06-2	
1,3,5-Trimethylbenzene	<17.4	ug/kg	75.7	17.4	1	01/19/17 11:46	01/19/17 16:30	108-67-8	
1,3-Dichlorobenzene	<14.6	ug/kg	75.7	14.6	1	01/19/17 11:46	01/19/17 16:30	541-73-1	
1,4-Dichlorobenzene	<21.9	ug/kg	75.7	21.9	1	01/19/17 11:46	01/19/17 16:30	106-46-7	
2-Butanone (MEK)	<99.9	ug/kg	378	99.9	1	01/19/17 11:46	01/19/17 16:30	78-93-3	
2-Hexanone	<89.1	ug/kg	378	89.1	1	01/19/17 11:46	01/19/17 16:30	591-78-6	
4-Methyl-2-pentanone (MIBK)	<50.1	ug/kg	378	50.1	1	01/19/17 11:46	01/19/17 16:30	108-10-1	
Acetone	<496	ug/kg	1510	496	1	01/19/17 11:46	01/19/17 16:30	67-64-1	
Benzene	<6.5	ug/kg	30.3	6.5	1	01/19/17 11:46	01/19/17 16:30	71-43-2	
Bromodichloromethane	<21.2	ug/kg	75.7	21.2	1	01/19/17 11:46	01/19/17 16:30	75-27-4	
Bromoform	<65.2	ug/kg	303	65.2	1	01/19/17 11:46	01/19/17 16:30	75-25-2	
Bromomethane	<76.7	ug/kg	757	76.7	1	01/19/17 11:46	01/19/17 16:30	74-83-9	
Carbon tetrachloride	<23.8	ug/kg	75.7	23.8	1	01/19/17 11:46	01/19/17 16:30	56-23-5	
Chlorobenzene	<13.2	ug/kg	75.7	13.2	1	01/19/17 11:46	01/19/17 16:30	108-90-7	
Chloroethane	<120	ug/kg	757	120	1	01/19/17 11:46	01/19/17 16:30	75-00-3	
Chloroform	<36.8	ug/kg	75.7	36.8	1	01/19/17 11:46	01/19/17 16:30	67-66-3	
Chloromethane	<36.6	ug/kg	303	36.6	1	01/19/17 11:46	01/19/17 16:30	74-87-3	
Dibromochloromethane	<64.9	ug/kg	303	64.9	1	01/19/17 11:46	01/19/17 16:30	124-48-1	
Dichlorodifluoromethane	<23.1	ug/kg	303	23.1	1	01/19/17 11:46	01/19/17 16:30	75-71-8	
Ethylbenzene	<24.1	ug/kg	75.7	24.1	1	01/19/17 11:46	01/19/17 16:30	100-41-4	
Hexachloro-1,3-butadiene	<71.1	ug/kg	378	71.1	1	01/19/17 11:46	01/19/17 16:30	87-68-3	
Methyl-tert-butyl ether	<14.2	ug/kg	75.7	14.2	1	01/19/17 11:46	01/19/17 16:30	1634-04-4	
Methylene Chloride	<140	ug/kg	303	140	1	01/19/17 11:46	01/19/17 16:30	75-09-2	
Naphthalene	<18.3	ug/kg	303	18.3	1	01/19/17 11:46	01/19/17 16:30	91-20-3	
Styrene	<19.7	ug/kg	75.7	19.7	1	01/19/17 11:46	01/19/17 16:30	100-42-5	
Tetrachloroethene	<28.9	ug/kg	75.7	28.9	1	01/19/17 11:46	01/19/17 16:30	127-18-4	
Tetrahydrofuran	<375	ug/kg	3030	375	1	01/19/17 11:46	01/19/17 16:30	109-99-9	
Toluene	30.2J	ug/kg	75.7	24.1	1	01/19/17 11:46	01/19/17 16:30	108-88-3	
Trichloroethene	<21.6	ug/kg	75.7	21.6	1	01/19/17 11:46	01/19/17 16:30	79-01-6	
Trichlorofluoromethane	<76.0	ug/kg	303	76.0	1	01/19/17 11:46	01/19/17 16:30	75-69-4	
Vinyl acetate	<80.0	ug/kg	757	80.0	1	01/19/17 11:46	01/19/17 16:30	108-05-4	
Vinyl chloride	<9.7	ug/kg	30.3	9.7	1	01/19/17 11:46	01/19/17 16:30	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB37-SS-60 **Lab ID: 10376141010** Collected: 01/12/17 09:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<28.1	ug/kg	75.7	28.1	1	01/19/17 11:46	01/19/17 16:30	156-59-2	
cis-1,3-Dichloropropene	<34.5	ug/kg	75.7	34.5	1	01/19/17 11:46	01/19/17 16:30	10061-01-5	
m&p-Xylene	<38.0	ug/kg	151	38.0	1	01/19/17 11:46	01/19/17 16:30	179601-23-1	
o-Xylene	<22.5	ug/kg	75.7	22.5	1	01/19/17 11:46	01/19/17 16:30	95-47-6	
trans-1,2-Dichloroethene	<36.5	ug/kg	75.7	36.5	1	01/19/17 11:46	01/19/17 16:30	156-60-5	
trans-1,3-Dichloropropene	<25.7	ug/kg	303	25.7	1	01/19/17 11:46	01/19/17 16:30	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-129		1	01/19/17 11:46	01/19/17 16:30	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1	01/19/17 11:46	01/19/17 16:30	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1	01/19/17 11:46	01/19/17 16:30	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-30** Lab ID: **10376141011** Collected: 01/13/17 08:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	26.0	%	0.10	0.10	1		01/27/17 15:49		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<29.0	ug/kg	69.3	29.0	1	01/19/17 11:46	01/19/17 16:46	71-55-6	
1,1,2,2-Tetrachloroethane	<15.4	ug/kg	69.3	15.4	1	01/19/17 11:46	01/19/17 16:46	79-34-5	
1,1,2-Trichloroethane	<15.0	ug/kg	69.3	15.0	1	01/19/17 11:46	01/19/17 16:46	79-00-5	
1,1,2-Trichlorotrifluoroethane	<49.9	ug/kg	277	49.9	1	01/19/17 11:46	01/19/17 16:46	76-13-1	
1,1-Dichloroethane	<26.9	ug/kg	69.3	26.9	1	01/19/17 11:46	01/19/17 16:46	75-34-3	
1,1-Dichloroethene	<17.6	ug/kg	69.3	17.6	1	01/19/17 11:46	01/19/17 16:46	75-35-4	
1,2,4-Trichlorobenzene	<21.3	ug/kg	69.3	21.3	1	01/19/17 11:46	01/19/17 16:46	120-82-1	
1,2,4-Trimethylbenzene	<15.2	ug/kg	69.3	15.2	1	01/19/17 11:46	01/19/17 16:46	95-63-6	
1,2-Dibromoethane (EDB)	<26.1	ug/kg	69.3	26.1	1	01/19/17 11:46	01/19/17 16:46	106-93-4	
1,2-Dichlorobenzene	<13.4	ug/kg	69.3	13.4	1	01/19/17 11:46	01/19/17 16:46	95-50-1	
1,2-Dichloroethane	<21.9	ug/kg	69.3	21.9	1	01/19/17 11:46	01/19/17 16:46	107-06-2	
1,3,5-Trimethylbenzene	<15.9	ug/kg	69.3	15.9	1	01/19/17 11:46	01/19/17 16:46	108-67-8	
1,3-Dichlorobenzene	<13.4	ug/kg	69.3	13.4	1	01/19/17 11:46	01/19/17 16:46	541-73-1	
1,4-Dichlorobenzene	<20.1	ug/kg	69.3	20.1	1	01/19/17 11:46	01/19/17 16:46	106-46-7	
2-Butanone (MEK)	<91.5	ug/kg	346	91.5	1	01/19/17 11:46	01/19/17 16:46	78-93-3	
2-Hexanone	<81.6	ug/kg	346	81.6	1	01/19/17 11:46	01/19/17 16:46	591-78-6	
4-Methyl-2-pentanone (MIBK)	<45.9	ug/kg	346	45.9	1	01/19/17 11:46	01/19/17 16:46	108-10-1	
Acetone	<454	ug/kg	1390	454	1	01/19/17 11:46	01/19/17 16:46	67-64-1	
Benzene	<6.0	ug/kg	27.7	6.0	1	01/19/17 11:46	01/19/17 16:46	71-43-2	
Bromodichloromethane	<19.4	ug/kg	69.3	19.4	1	01/19/17 11:46	01/19/17 16:46	75-27-4	
Bromoform	<59.7	ug/kg	277	59.7	1	01/19/17 11:46	01/19/17 16:46	75-25-2	
Bromomethane	<70.3	ug/kg	693	70.3	1	01/19/17 11:46	01/19/17 16:46	74-83-9	
Carbon tetrachloride	<21.8	ug/kg	69.3	21.8	1	01/19/17 11:46	01/19/17 16:46	56-23-5	
Chlorobenzene	<12.1	ug/kg	69.3	12.1	1	01/19/17 11:46	01/19/17 16:46	108-90-7	
Chloroethane	<109	ug/kg	693	109	1	01/19/17 11:46	01/19/17 16:46	75-00-3	
Chloroform	<33.7	ug/kg	69.3	33.7	1	01/19/17 11:46	01/19/17 16:46	67-66-3	
Chloromethane	<33.5	ug/kg	277	33.5	1	01/19/17 11:46	01/19/17 16:46	74-87-3	
Dibromochloromethane	<59.4	ug/kg	277	59.4	1	01/19/17 11:46	01/19/17 16:46	124-48-1	
Dichlorodifluoromethane	<21.2	ug/kg	277	21.2	1	01/19/17 11:46	01/19/17 16:46	75-71-8	
Ethylbenzene	<22.0	ug/kg	69.3	22.0	1	01/19/17 11:46	01/19/17 16:46	100-41-4	
Hexachloro-1,3-butadiene	<65.1	ug/kg	346	65.1	1	01/19/17 11:46	01/19/17 16:46	87-68-3	
Methyl-tert-butyl ether	<13.0	ug/kg	69.3	13.0	1	01/19/17 11:46	01/19/17 16:46	1634-04-4	
Methylene Chloride	<128	ug/kg	277	128	1	01/19/17 11:46	01/19/17 16:46	75-09-2	
Naphthalene	<16.8	ug/kg	277	16.8	1	01/19/17 11:46	01/19/17 16:46	91-20-3	
Styrene	<18.0	ug/kg	69.3	18.0	1	01/19/17 11:46	01/19/17 16:46	100-42-5	
Tetrachloroethene	<26.5	ug/kg	69.3	26.5	1	01/19/17 11:46	01/19/17 16:46	127-18-4	
Tetrahydrofuran	<344	ug/kg	2770	344	1	01/19/17 11:46	01/19/17 16:46	109-99-9	
Toluene	<22.0	ug/kg	69.3	22.0	1	01/19/17 11:46	01/19/17 16:46	108-88-3	
Trichloroethene	<19.8	ug/kg	69.3	19.8	1	01/19/17 11:46	01/19/17 16:46	79-01-6	
Trichlorofluoromethane	<69.6	ug/kg	277	69.6	1	01/19/17 11:46	01/19/17 16:46	75-69-4	
Vinyl acetate	<73.3	ug/kg	693	73.3	1	01/19/17 11:46	01/19/17 16:46	108-05-4	
Vinyl chloride	<8.9	ug/kg	27.7	8.9	1	01/19/17 11:46	01/19/17 16:46	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-30 **Lab ID: 10376141011** Collected: 01/13/17 08:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.8	ug/kg	69.3	25.8	1	01/19/17 11:46	01/19/17 16:46	156-59-2	
cis-1,3-Dichloropropene	<31.6	ug/kg	69.3	31.6	1	01/19/17 11:46	01/19/17 16:46	10061-01-5	
m&p-Xylene	<34.8	ug/kg	139	34.8	1	01/19/17 11:46	01/19/17 16:46	179601-23-1	
o-Xylene	<20.6	ug/kg	69.3	20.6	1	01/19/17 11:46	01/19/17 16:46	95-47-6	
trans-1,2-Dichloroethene	<33.4	ug/kg	69.3	33.4	1	01/19/17 11:46	01/19/17 16:46	156-60-5	
trans-1,3-Dichloropropene	<23.6	ug/kg	277	23.6	1	01/19/17 11:46	01/19/17 16:46	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/19/17 11:46	01/19/17 16:46	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/19/17 11:46	01/19/17 16:46	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1	01/19/17 11:46	01/19/17 16:46	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-35** Lab ID: **10376141012** Collected: 01/13/17 09:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	30.5	%	0.10	0.10	1		01/27/17 15:50		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<29.9	ug/kg	71.5	29.9	1	01/19/17 11:46	01/19/17 17:03	71-55-6	
1,1,2,2-Tetrachloroethane	<15.9	ug/kg	71.5	15.9	1	01/19/17 11:46	01/19/17 17:03	79-34-5	
1,1,2-Trichloroethane	<15.4	ug/kg	71.5	15.4	1	01/19/17 11:46	01/19/17 17:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<51.5	ug/kg	286	51.5	1	01/19/17 11:46	01/19/17 17:03	76-13-1	
1,1-Dichloroethane	<27.7	ug/kg	71.5	27.7	1	01/19/17 11:46	01/19/17 17:03	75-34-3	
1,1-Dichloroethene	<18.2	ug/kg	71.5	18.2	1	01/19/17 11:46	01/19/17 17:03	75-35-4	
1,2,4-Trichlorobenzene	<22.0	ug/kg	71.5	22.0	1	01/19/17 11:46	01/19/17 17:03	120-82-1	
1,2,4-Trimethylbenzene	<15.7	ug/kg	71.5	15.7	1	01/19/17 11:46	01/19/17 17:03	95-63-6	
1,2-Dibromoethane (EDB)	<26.9	ug/kg	71.5	26.9	1	01/19/17 11:46	01/19/17 17:03	106-93-4	
1,2-Dichlorobenzene	<13.8	ug/kg	71.5	13.8	1	01/19/17 11:46	01/19/17 17:03	95-50-1	
1,2-Dichloroethane	<22.6	ug/kg	71.5	22.6	1	01/19/17 11:46	01/19/17 17:03	107-06-2	
1,3,5-Trimethylbenzene	<16.4	ug/kg	71.5	16.4	1	01/19/17 11:46	01/19/17 17:03	108-67-8	
1,3-Dichlorobenzene	<13.8	ug/kg	71.5	13.8	1	01/19/17 11:46	01/19/17 17:03	541-73-1	
1,4-Dichlorobenzene	<20.7	ug/kg	71.5	20.7	1	01/19/17 11:46	01/19/17 17:03	106-46-7	
2-Butanone (MEK)	<94.4	ug/kg	357	94.4	1	01/19/17 11:46	01/19/17 17:03	78-93-3	
2-Hexanone	<84.2	ug/kg	357	84.2	1	01/19/17 11:46	01/19/17 17:03	591-78-6	
4-Methyl-2-pentanone (MIBK)	<47.3	ug/kg	357	47.3	1	01/19/17 11:46	01/19/17 17:03	108-10-1	
Acetone	<469	ug/kg	1430	469	1	01/19/17 11:46	01/19/17 17:03	67-64-1	
Benzene	<6.2	ug/kg	28.6	6.2	1	01/19/17 11:46	01/19/17 17:03	71-43-2	
Bromodichloromethane	<20.0	ug/kg	71.5	20.0	1	01/19/17 11:46	01/19/17 17:03	75-27-4	
Bromoform	<61.6	ug/kg	286	61.6	1	01/19/17 11:46	01/19/17 17:03	75-25-2	
Bromomethane	<72.5	ug/kg	715	72.5	1	01/19/17 11:46	01/19/17 17:03	74-83-9	
Carbon tetrachloride	<22.5	ug/kg	71.5	22.5	1	01/19/17 11:46	01/19/17 17:03	56-23-5	
Chlorobenzene	<12.4	ug/kg	71.5	12.4	1	01/19/17 11:46	01/19/17 17:03	108-90-7	
Chloroethane	<113	ug/kg	715	113	1	01/19/17 11:46	01/19/17 17:03	75-00-3	
Chloroform	<34.7	ug/kg	71.5	34.7	1	01/19/17 11:46	01/19/17 17:03	67-66-3	
Chloromethane	<34.6	ug/kg	286	34.6	1	01/19/17 11:46	01/19/17 17:03	74-87-3	
Dibromochloromethane	<61.3	ug/kg	286	61.3	1	01/19/17 11:46	01/19/17 17:03	124-48-1	
Dichlorodifluoromethane	<21.9	ug/kg	286	21.9	1	01/19/17 11:46	01/19/17 17:03	75-71-8	
Ethylbenzene	<22.7	ug/kg	71.5	22.7	1	01/19/17 11:46	01/19/17 17:03	100-41-4	
Hexachloro-1,3-butadiene	<67.2	ug/kg	357	67.2	1	01/19/17 11:46	01/19/17 17:03	87-68-3	
Methyl-tert-butyl ether	<13.4	ug/kg	71.5	13.4	1	01/19/17 11:46	01/19/17 17:03	1634-04-4	
Methylene Chloride	<132	ug/kg	286	132	1	01/19/17 11:46	01/19/17 17:03	75-09-2	
Naphthalene	<17.3	ug/kg	286	17.3	1	01/19/17 11:46	01/19/17 17:03	91-20-3	
Styrene	<18.6	ug/kg	71.5	18.6	1	01/19/17 11:46	01/19/17 17:03	100-42-5	
Tetrachloroethene	<27.3	ug/kg	71.5	27.3	1	01/19/17 11:46	01/19/17 17:03	127-18-4	
Tetrahydrofuran	<355	ug/kg	2860	355	1	01/19/17 11:46	01/19/17 17:03	109-99-9	
Toluene	<22.7	ug/kg	71.5	22.7	1	01/19/17 11:46	01/19/17 17:03	108-88-3	
Trichloroethene	<20.4	ug/kg	71.5	20.4	1	01/19/17 11:46	01/19/17 17:03	79-01-6	
Trichlorofluoromethane	<71.8	ug/kg	286	71.8	1	01/19/17 11:46	01/19/17 17:03	75-69-4	
Vinyl acetate	<75.6	ug/kg	715	75.6	1	01/19/17 11:46	01/19/17 17:03	108-05-4	
Vinyl chloride	<9.2	ug/kg	28.6	9.2	1	01/19/17 11:46	01/19/17 17:03	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-35 **Lab ID: 10376141012** Collected: 01/13/17 09:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<26.6	ug/kg	71.5	26.6	1	01/19/17 11:46	01/19/17 17:03	156-59-2	
cis-1,3-Dichloropropene	<32.6	ug/kg	71.5	32.6	1	01/19/17 11:46	01/19/17 17:03	10061-01-5	
m&p-Xylene	<35.9	ug/kg	143	35.9	1	01/19/17 11:46	01/19/17 17:03	179601-23-1	
o-Xylene	<21.3	ug/kg	71.5	21.3	1	01/19/17 11:46	01/19/17 17:03	95-47-6	
trans-1,2-Dichloroethene	<34.5	ug/kg	71.5	34.5	1	01/19/17 11:46	01/19/17 17:03	156-60-5	
trans-1,3-Dichloropropene	<24.3	ug/kg	286	24.3	1	01/19/17 11:46	01/19/17 17:03	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/19/17 11:46	01/19/17 17:03	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	01/19/17 11:46	01/19/17 17:03	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1	01/19/17 11:46	01/19/17 17:03	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-40 **Lab ID: 10376141013** Collected: 01/13/17 09:10 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	29.5	%	0.10	0.10	1		01/27/17 15:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.7	ug/kg	66.3	27.7	1	01/19/17 11:46	01/19/17 17:19	71-55-6	
1,1,2,2-Tetrachloroethane	<14.7	ug/kg	66.3	14.7	1	01/19/17 11:46	01/19/17 17:19	79-34-5	
1,1,2-Trichloroethane	<14.3	ug/kg	66.3	14.3	1	01/19/17 11:46	01/19/17 17:19	79-00-5	
1,1,2-Trichlorotrifluoroethane	<47.8	ug/kg	265	47.8	1	01/19/17 11:46	01/19/17 17:19	76-13-1	
1,1-Dichloroethane	<25.7	ug/kg	66.3	25.7	1	01/19/17 11:46	01/19/17 17:19	75-34-3	
1,1-Dichloroethene	<16.8	ug/kg	66.3	16.8	1	01/19/17 11:46	01/19/17 17:19	75-35-4	
1,2,4-Trichlorobenzene	<20.4	ug/kg	66.3	20.4	1	01/19/17 11:46	01/19/17 17:19	120-82-1	
1,2,4-Trimethylbenzene	<14.6	ug/kg	66.3	14.6	1	01/19/17 11:46	01/19/17 17:19	95-63-6	
1,2-Dibromoethane (EDB)	<24.9	ug/kg	66.3	24.9	1	01/19/17 11:46	01/19/17 17:19	106-93-4	
1,2-Dichlorobenzene	<12.8	ug/kg	66.3	12.8	1	01/19/17 11:46	01/19/17 17:19	95-50-1	
1,2-Dichloroethane	<21.0	ug/kg	66.3	21.0	1	01/19/17 11:46	01/19/17 17:19	107-06-2	
1,3,5-Trimethylbenzene	<15.3	ug/kg	66.3	15.3	1	01/19/17 11:46	01/19/17 17:19	108-67-8	
1,3-Dichlorobenzene	<12.8	ug/kg	66.3	12.8	1	01/19/17 11:46	01/19/17 17:19	541-73-1	
1,4-Dichlorobenzene	<19.2	ug/kg	66.3	19.2	1	01/19/17 11:46	01/19/17 17:19	106-46-7	
2-Butanone (MEK)	<87.5	ug/kg	332	87.5	1	01/19/17 11:46	01/19/17 17:19	78-93-3	
2-Hexanone	<78.1	ug/kg	332	78.1	1	01/19/17 11:46	01/19/17 17:19	591-78-6	
4-Methyl-2-pentanone (MIBK)	<43.9	ug/kg	332	43.9	1	01/19/17 11:46	01/19/17 17:19	108-10-1	
Acetone	<435	ug/kg	1330	435	1	01/19/17 11:46	01/19/17 17:19	67-64-1	
Benzene	<5.7	ug/kg	26.5	5.7	1	01/19/17 11:46	01/19/17 17:19	71-43-2	
Bromodichloromethane	<18.6	ug/kg	66.3	18.6	1	01/19/17 11:46	01/19/17 17:19	75-27-4	
Bromoform	<57.2	ug/kg	265	57.2	1	01/19/17 11:46	01/19/17 17:19	75-25-2	
Bromomethane	<67.2	ug/kg	663	67.2	1	01/19/17 11:46	01/19/17 17:19	74-83-9	
Carbon tetrachloride	<20.8	ug/kg	66.3	20.8	1	01/19/17 11:46	01/19/17 17:19	56-23-5	
Chlorobenzene	<11.5	ug/kg	66.3	11.5	1	01/19/17 11:46	01/19/17 17:19	108-90-7	
Chloroethane	<105	ug/kg	663	105	1	01/19/17 11:46	01/19/17 17:19	75-00-3	
Chloroform	<32.2	ug/kg	66.3	32.2	1	01/19/17 11:46	01/19/17 17:19	67-66-3	
Chloromethane	<32.1	ug/kg	265	32.1	1	01/19/17 11:46	01/19/17 17:19	74-87-3	
Dibromochloromethane	<56.9	ug/kg	265	56.9	1	01/19/17 11:46	01/19/17 17:19	124-48-1	
Dichlorodifluoromethane	<20.3	ug/kg	265	20.3	1	01/19/17 11:46	01/19/17 17:19	75-71-8	
Ethylbenzene	<21.1	ug/kg	66.3	21.1	1	01/19/17 11:46	01/19/17 17:19	100-41-4	
Hexachloro-1,3-butadiene	<62.3	ug/kg	332	62.3	1	01/19/17 11:46	01/19/17 17:19	87-68-3	
Methyl-tert-butyl ether	<12.4	ug/kg	66.3	12.4	1	01/19/17 11:46	01/19/17 17:19	1634-04-4	
Methylene Chloride	<123	ug/kg	265	123	1	01/19/17 11:46	01/19/17 17:19	75-09-2	
Naphthalene	<16.0	ug/kg	265	16.0	1	01/19/17 11:46	01/19/17 17:19	91-20-3	
Styrene	<17.2	ug/kg	66.3	17.2	1	01/19/17 11:46	01/19/17 17:19	100-42-5	
Tetrachloroethene	<25.3	ug/kg	66.3	25.3	1	01/19/17 11:46	01/19/17 17:19	127-18-4	
Tetrahydrofuran	<329	ug/kg	2650	329	1	01/19/17 11:46	01/19/17 17:19	109-99-9	
Toluene	<21.1	ug/kg	66.3	21.1	1	01/19/17 11:46	01/19/17 17:19	108-88-3	
Trichloroethene	<19.0	ug/kg	66.3	19.0	1	01/19/17 11:46	01/19/17 17:19	79-01-6	
Trichlorofluoromethane	<66.6	ug/kg	265	66.6	1	01/19/17 11:46	01/19/17 17:19	75-69-4	
Vinyl acetate	<70.2	ug/kg	663	70.2	1	01/19/17 11:46	01/19/17 17:19	108-05-4	
Vinyl chloride	<8.5	ug/kg	26.5	8.5	1	01/19/17 11:46	01/19/17 17:19	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-40 **Lab ID: 10376141013** Collected: 01/13/17 09:10 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.7	ug/kg	66.3	24.7	1	01/19/17 11:46	01/19/17 17:19	156-59-2	
cis-1,3-Dichloropropene	<30.2	ug/kg	66.3	30.2	1	01/19/17 11:46	01/19/17 17:19	10061-01-5	
m&p-Xylene	<33.3	ug/kg	133	33.3	1	01/19/17 11:46	01/19/17 17:19	179601-23-1	
o-Xylene	<19.8	ug/kg	66.3	19.8	1	01/19/17 11:46	01/19/17 17:19	95-47-6	
trans-1,2-Dichloroethene	<32.0	ug/kg	66.3	32.0	1	01/19/17 11:46	01/19/17 17:19	156-60-5	
trans-1,3-Dichloropropene	<22.5	ug/kg	265	22.5	1	01/19/17 11:46	01/19/17 17:19	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-129		1	01/19/17 11:46	01/19/17 17:19	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/19/17 11:46	01/19/17 17:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/19/17 11:46	01/19/17 17:19	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-45** Lab ID: **10376141014** Collected: 01/13/17 09:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	26.0	%	0.10	0.10	1		01/27/17 15:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.8	ug/kg	64.1	26.8	1	01/19/17 11:46	01/19/17 17:35	71-55-6	
1,1,2,2-Tetrachloroethane	<14.2	ug/kg	64.1	14.2	1	01/19/17 11:46	01/19/17 17:35	79-34-5	
1,1,2-Trichloroethane	<13.8	ug/kg	64.1	13.8	1	01/19/17 11:46	01/19/17 17:35	79-00-5	
1,1,2-Trichlorotrifluoroethane	<46.2	ug/kg	256	46.2	1	01/19/17 11:46	01/19/17 17:35	76-13-1	
1,1-Dichloroethane	<24.9	ug/kg	64.1	24.9	1	01/19/17 11:46	01/19/17 17:35	75-34-3	
1,1-Dichloroethene	<16.3	ug/kg	64.1	16.3	1	01/19/17 11:46	01/19/17 17:35	75-35-4	
1,2,4-Trichlorobenzene	<19.7	ug/kg	64.1	19.7	1	01/19/17 11:46	01/19/17 17:35	120-82-1	
1,2,4-Trimethylbenzene	<14.1	ug/kg	64.1	14.1	1	01/19/17 11:46	01/19/17 17:35	95-63-6	
1,2-Dibromoethane (EDB)	<24.1	ug/kg	64.1	24.1	1	01/19/17 11:46	01/19/17 17:35	106-93-4	
1,2-Dichlorobenzene	<12.4	ug/kg	64.1	12.4	1	01/19/17 11:46	01/19/17 17:35	95-50-1	
1,2-Dichloroethane	<20.3	ug/kg	64.1	20.3	1	01/19/17 11:46	01/19/17 17:35	107-06-2	
1,3,5-Trimethylbenzene	<14.7	ug/kg	64.1	14.7	1	01/19/17 11:46	01/19/17 17:35	108-67-8	
1,3-Dichlorobenzene	<12.4	ug/kg	64.1	12.4	1	01/19/17 11:46	01/19/17 17:35	541-73-1	
1,4-Dichlorobenzene	<18.6	ug/kg	64.1	18.6	1	01/19/17 11:46	01/19/17 17:35	106-46-7	
2-Butanone (MEK)	<84.6	ug/kg	321	84.6	1	01/19/17 11:46	01/19/17 17:35	78-93-3	
2-Hexanone	<75.5	ug/kg	321	75.5	1	01/19/17 11:46	01/19/17 17:35	591-78-6	
4-Methyl-2-pentanone (MIBK)	<42.4	ug/kg	321	42.4	1	01/19/17 11:46	01/19/17 17:35	108-10-1	
Acetone	<421	ug/kg	1280	421	1	01/19/17 11:46	01/19/17 17:35	67-64-1	
Benzene	<5.5	ug/kg	25.6	5.5	1	01/19/17 11:46	01/19/17 17:35	71-43-2	
Bromodichloromethane	<17.9	ug/kg	64.1	17.9	1	01/19/17 11:46	01/19/17 17:35	75-27-4	
Bromoform	<55.3	ug/kg	256	55.3	1	01/19/17 11:46	01/19/17 17:35	75-25-2	
Bromomethane	<65.0	ug/kg	641	65.0	1	01/19/17 11:46	01/19/17 17:35	74-83-9	
Carbon tetrachloride	<20.1	ug/kg	64.1	20.1	1	01/19/17 11:46	01/19/17 17:35	56-23-5	
Chlorobenzene	<11.2	ug/kg	64.1	11.2	1	01/19/17 11:46	01/19/17 17:35	108-90-7	
Chloroethane	<101	ug/kg	641	101	1	01/19/17 11:46	01/19/17 17:35	75-00-3	
Chloroform	<31.2	ug/kg	64.1	31.2	1	01/19/17 11:46	01/19/17 17:35	67-66-3	
Chloromethane	<31.0	ug/kg	256	31.0	1	01/19/17 11:46	01/19/17 17:35	74-87-3	
Dibromochloromethane	<55.0	ug/kg	256	55.0	1	01/19/17 11:46	01/19/17 17:35	124-48-1	
Dichlorodifluoromethane	<19.6	ug/kg	256	19.6	1	01/19/17 11:46	01/19/17 17:35	75-71-8	
Ethylbenzene	<20.4	ug/kg	64.1	20.4	1	01/19/17 11:46	01/19/17 17:35	100-41-4	
Hexachloro-1,3-butadiene	<60.3	ug/kg	321	60.3	1	01/19/17 11:46	01/19/17 17:35	87-68-3	
Methyl-tert-butyl ether	<12.0	ug/kg	64.1	12.0	1	01/19/17 11:46	01/19/17 17:35	1634-04-4	
Methylene Chloride	<119	ug/kg	256	119	1	01/19/17 11:46	01/19/17 17:35	75-09-2	
Naphthalene	<15.5	ug/kg	256	15.5	1	01/19/17 11:46	01/19/17 17:35	91-20-3	
Styrene	<16.7	ug/kg	64.1	16.7	1	01/19/17 11:46	01/19/17 17:35	100-42-5	
Tetrachloroethene	<24.5	ug/kg	64.1	24.5	1	01/19/17 11:46	01/19/17 17:35	127-18-4	
Tetrahydrofuran	<318	ug/kg	2560	318	1	01/19/17 11:46	01/19/17 17:35	109-99-9	
Toluene	<20.4	ug/kg	64.1	20.4	1	01/19/17 11:46	01/19/17 17:35	108-88-3	
Trichloroethene	<18.3	ug/kg	64.1	18.3	1	01/19/17 11:46	01/19/17 17:35	79-01-6	
Trichlorofluoromethane	<64.4	ug/kg	256	64.4	1	01/19/17 11:46	01/19/17 17:35	75-69-4	
Vinyl acetate	<67.8	ug/kg	641	67.8	1	01/19/17 11:46	01/19/17 17:35	108-05-4	
Vinyl chloride	<8.2	ug/kg	25.6	8.2	1	01/19/17 11:46	01/19/17 17:35	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-45 **Lab ID: 10376141014** Collected: 01/13/17 09:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.8	ug/kg	64.1	23.8	1	01/19/17 11:46	01/19/17 17:35	156-59-2	
cis-1,3-Dichloropropene	<29.2	ug/kg	64.1	29.2	1	01/19/17 11:46	01/19/17 17:35	10061-01-5	
m&p-Xylene	<32.2	ug/kg	128	32.2	1	01/19/17 11:46	01/19/17 17:35	179601-23-1	
o-Xylene	<19.1	ug/kg	64.1	19.1	1	01/19/17 11:46	01/19/17 17:35	95-47-6	
trans-1,2-Dichloroethene	<30.9	ug/kg	64.1	30.9	1	01/19/17 11:46	01/19/17 17:35	156-60-5	
trans-1,3-Dichloropropene	<21.8	ug/kg	256	21.8	1	01/19/17 11:46	01/19/17 17:35	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%	75-129		1	01/19/17 11:46	01/19/17 17:35	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	01/19/17 11:46	01/19/17 17:35	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/19/17 11:46	01/19/17 17:35	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-50** Lab ID: **10376141015** Collected: 01/13/17 09:40 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	26.8	%	0.10	0.10	1		01/27/17 15:50		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.3	ug/kg	65.3	27.3	1	01/19/17 11:46	01/19/17 17:52	71-55-6	
1,1,2,2-Tetrachloroethane	<14.5	ug/kg	65.3	14.5	1	01/19/17 11:46	01/19/17 17:52	79-34-5	
1,1,2-Trichloroethane	<14.1	ug/kg	65.3	14.1	1	01/19/17 11:46	01/19/17 17:52	79-00-5	
1,1,2-Trichlorotrifluoroethane	<47.0	ug/kg	261	47.0	1	01/19/17 11:46	01/19/17 17:52	76-13-1	
1,1-Dichloroethane	<25.3	ug/kg	65.3	25.3	1	01/19/17 11:46	01/19/17 17:52	75-34-3	
1,1-Dichloroethene	<16.6	ug/kg	65.3	16.6	1	01/19/17 11:46	01/19/17 17:52	75-35-4	
1,2,4-Trichlorobenzene	<20.1	ug/kg	65.3	20.1	1	01/19/17 11:46	01/19/17 17:52	120-82-1	
1,2,4-Trimethylbenzene	<14.4	ug/kg	65.3	14.4	1	01/19/17 11:46	01/19/17 17:52	95-63-6	
1,2-Dibromoethane (EDB)	<24.6	ug/kg	65.3	24.6	1	01/19/17 11:46	01/19/17 17:52	106-93-4	
1,2-Dichlorobenzene	<12.6	ug/kg	65.3	12.6	1	01/19/17 11:46	01/19/17 17:52	95-50-1	
1,2-Dichloroethane	<20.6	ug/kg	65.3	20.6	1	01/19/17 11:46	01/19/17 17:52	107-06-2	
1,3,5-Trimethylbenzene	<15.0	ug/kg	65.3	15.0	1	01/19/17 11:46	01/19/17 17:52	108-67-8	
1,3-Dichlorobenzene	<12.6	ug/kg	65.3	12.6	1	01/19/17 11:46	01/19/17 17:52	541-73-1	
1,4-Dichlorobenzene	<18.9	ug/kg	65.3	18.9	1	01/19/17 11:46	01/19/17 17:52	106-46-7	
2-Butanone (MEK)	<86.2	ug/kg	327	86.2	1	01/19/17 11:46	01/19/17 17:52	78-93-3	
2-Hexanone	<77.0	ug/kg	327	77.0	1	01/19/17 11:46	01/19/17 17:52	591-78-6	
4-Methyl-2-pentanone (MIBK)	<43.2	ug/kg	327	43.2	1	01/19/17 11:46	01/19/17 17:52	108-10-1	
Acetone	<429	ug/kg	1310	429	1	01/19/17 11:46	01/19/17 17:52	67-64-1	
Benzene	<5.6	ug/kg	26.1	5.6	1	01/19/17 11:46	01/19/17 17:52	71-43-2	
Bromodichloromethane	<18.3	ug/kg	65.3	18.3	1	01/19/17 11:46	01/19/17 17:52	75-27-4	
Bromoform	<56.3	ug/kg	261	56.3	1	01/19/17 11:46	01/19/17 17:52	75-25-2	
Bromomethane	<66.2	ug/kg	653	66.2	1	01/19/17 11:46	01/19/17 17:52	74-83-9	
Carbon tetrachloride	<20.5	ug/kg	65.3	20.5	1	01/19/17 11:46	01/19/17 17:52	56-23-5	
Chlorobenzene	<11.4	ug/kg	65.3	11.4	1	01/19/17 11:46	01/19/17 17:52	108-90-7	
Chloroethane	<103	ug/kg	653	103	1	01/19/17 11:46	01/19/17 17:52	75-00-3	
Chloroform	<31.7	ug/kg	65.3	31.7	1	01/19/17 11:46	01/19/17 17:52	67-66-3	
Chloromethane	<31.6	ug/kg	261	31.6	1	01/19/17 11:46	01/19/17 17:52	74-87-3	
Dibromochloromethane	<56.0	ug/kg	261	56.0	1	01/19/17 11:46	01/19/17 17:52	124-48-1	
Dichlorodifluoromethane	<20.0	ug/kg	261	20.0	1	01/19/17 11:46	01/19/17 17:52	75-71-8	
Ethylbenzene	<20.8	ug/kg	65.3	20.8	1	01/19/17 11:46	01/19/17 17:52	100-41-4	
Hexachloro-1,3-butadiene	<61.4	ug/kg	327	61.4	1	01/19/17 11:46	01/19/17 17:52	87-68-3	
Methyl-tert-butyl ether	<12.2	ug/kg	65.3	12.2	1	01/19/17 11:46	01/19/17 17:52	1634-04-4	
Methylene Chloride	<121	ug/kg	261	121	1	01/19/17 11:46	01/19/17 17:52	75-09-2	
Naphthalene	<15.8	ug/kg	261	15.8	1	01/19/17 11:46	01/19/17 17:52	91-20-3	
Styrene	<17.0	ug/kg	65.3	17.0	1	01/19/17 11:46	01/19/17 17:52	100-42-5	
Tetrachloroethene	<25.0	ug/kg	65.3	25.0	1	01/19/17 11:46	01/19/17 17:52	127-18-4	
Tetrahydrofuran	<324	ug/kg	2610	324	1	01/19/17 11:46	01/19/17 17:52	109-99-9	
Toluene	<20.8	ug/kg	65.3	20.8	1	01/19/17 11:46	01/19/17 17:52	108-88-3	
Trichloroethene	<18.7	ug/kg	65.3	18.7	1	01/19/17 11:46	01/19/17 17:52	79-01-6	
Trichlorofluoromethane	<65.6	ug/kg	261	65.6	1	01/19/17 11:46	01/19/17 17:52	75-69-4	
Vinyl acetate	<69.1	ug/kg	653	69.1	1	01/19/17 11:46	01/19/17 17:52	108-05-4	
Vinyl chloride	<8.4	ug/kg	26.1	8.4	1	01/19/17 11:46	01/19/17 17:52	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-50 **Lab ID: 10376141015** Collected: 01/13/17 09:40 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.3	ug/kg	65.3	24.3	1	01/19/17 11:46	01/19/17 17:52	156-59-2	
cis-1,3-Dichloropropene	<29.8	ug/kg	65.3	29.8	1	01/19/17 11:46	01/19/17 17:52	10061-01-5	
m&p-Xylene	<32.8	ug/kg	131	32.8	1	01/19/17 11:46	01/19/17 17:52	179601-23-1	
o-Xylene	<19.5	ug/kg	65.3	19.5	1	01/19/17 11:46	01/19/17 17:52	95-47-6	
trans-1,2-Dichloroethene	<31.5	ug/kg	65.3	31.5	1	01/19/17 11:46	01/19/17 17:52	156-60-5	
trans-1,3-Dichloropropene	<22.2	ug/kg	261	22.2	1	01/19/17 11:46	01/19/17 17:52	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	84	%	75-129		1	01/19/17 11:46	01/19/17 17:52	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1	01/19/17 11:46	01/19/17 17:52	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/19/17 11:46	01/19/17 17:52	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-55 **Lab ID: 10376141016** Collected: 01/13/17 09:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	24.7	%	0.10	0.10	1		01/27/17 15:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.5	ug/kg	60.9	25.5	1	01/19/17 11:46	01/19/17 18:08	71-55-6	
1,1,2,2-Tetrachloroethane	<13.5	ug/kg	60.9	13.5	1	01/19/17 11:46	01/19/17 18:08	79-34-5	
1,1,2-Trichloroethane	<13.2	ug/kg	60.9	13.2	1	01/19/17 11:46	01/19/17 18:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<43.9	ug/kg	244	43.9	1	01/19/17 11:46	01/19/17 18:08	76-13-1	
1,1-Dichloroethane	<23.6	ug/kg	60.9	23.6	1	01/19/17 11:46	01/19/17 18:08	75-34-3	
1,1-Dichloroethene	<15.5	ug/kg	60.9	15.5	1	01/19/17 11:46	01/19/17 18:08	75-35-4	
1,2,4-Trichlorobenzene	<18.8	ug/kg	60.9	18.8	1	01/19/17 11:46	01/19/17 18:08	120-82-1	
1,2,4-Trimethylbenzene	<13.4	ug/kg	60.9	13.4	1	01/19/17 11:46	01/19/17 18:08	95-63-6	
1,2-Dibromoethane (EDB)	<22.9	ug/kg	60.9	22.9	1	01/19/17 11:46	01/19/17 18:08	106-93-4	
1,2-Dichlorobenzene	<11.8	ug/kg	60.9	11.8	1	01/19/17 11:46	01/19/17 18:08	95-50-1	
1,2-Dichloroethane	<19.2	ug/kg	60.9	19.2	1	01/19/17 11:46	01/19/17 18:08	107-06-2	
1,3,5-Trimethylbenzene	<14.0	ug/kg	60.9	14.0	1	01/19/17 11:46	01/19/17 18:08	108-67-8	
1,3-Dichlorobenzene	<11.8	ug/kg	60.9	11.8	1	01/19/17 11:46	01/19/17 18:08	541-73-1	
1,4-Dichlorobenzene	<17.7	ug/kg	60.9	17.7	1	01/19/17 11:46	01/19/17 18:08	106-46-7	
2-Butanone (MEK)	<80.4	ug/kg	305	80.4	1	01/19/17 11:46	01/19/17 18:08	78-93-3	
2-Hexanone	<71.7	ug/kg	305	71.7	1	01/19/17 11:46	01/19/17 18:08	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.3	ug/kg	305	40.3	1	01/19/17 11:46	01/19/17 18:08	108-10-1	
Acetone	<400	ug/kg	1220	400	1	01/19/17 11:46	01/19/17 18:08	67-64-1	
Benzene	<5.3	ug/kg	24.4	5.3	1	01/19/17 11:46	01/19/17 18:08	71-43-2	
Bromodichloromethane	<17.1	ug/kg	60.9	17.1	1	01/19/17 11:46	01/19/17 18:08	75-27-4	
Bromoform	<52.5	ug/kg	244	52.5	1	01/19/17 11:46	01/19/17 18:08	75-25-2	
Bromomethane	<61.8	ug/kg	609	61.8	1	01/19/17 11:46	01/19/17 18:08	74-83-9	
Carbon tetrachloride	<19.1	ug/kg	60.9	19.1	1	01/19/17 11:46	01/19/17 18:08	56-23-5	
Chlorobenzene	<10.6	ug/kg	60.9	10.6	1	01/19/17 11:46	01/19/17 18:08	108-90-7	
Chloroethane	<96.2	ug/kg	609	96.2	1	01/19/17 11:46	01/19/17 18:08	75-00-3	
Chloroform	<29.6	ug/kg	60.9	29.6	1	01/19/17 11:46	01/19/17 18:08	67-66-3	
Chloromethane	<29.5	ug/kg	244	29.5	1	01/19/17 11:46	01/19/17 18:08	74-87-3	
Dibromochloromethane	<52.3	ug/kg	244	52.3	1	01/19/17 11:46	01/19/17 18:08	124-48-1	
Dichlorodifluoromethane	<18.6	ug/kg	244	18.6	1	01/19/17 11:46	01/19/17 18:08	75-71-8	
Ethylbenzene	<19.4	ug/kg	60.9	19.4	1	01/19/17 11:46	01/19/17 18:08	100-41-4	
Hexachloro-1,3-butadiene	<57.3	ug/kg	305	57.3	1	01/19/17 11:46	01/19/17 18:08	87-68-3	
Methyl-tert-butyl ether	<11.4	ug/kg	60.9	11.4	1	01/19/17 11:46	01/19/17 18:08	1634-04-4	
Methylene Chloride	<113	ug/kg	244	113	1	01/19/17 11:46	01/19/17 18:08	75-09-2	
Naphthalene	<14.7	ug/kg	244	14.7	1	01/19/17 11:46	01/19/17 18:08	91-20-3	
Styrene	<15.8	ug/kg	60.9	15.8	1	01/19/17 11:46	01/19/17 18:08	100-42-5	
Tetrachloroethene	<23.3	ug/kg	60.9	23.3	1	01/19/17 11:46	01/19/17 18:08	127-18-4	
Tetrahydrofuran	<302	ug/kg	2440	302	1	01/19/17 11:46	01/19/17 18:08	109-99-9	
Toluene	<19.4	ug/kg	60.9	19.4	1	01/19/17 11:46	01/19/17 18:08	108-88-3	
Trichloroethene	<17.4	ug/kg	60.9	17.4	1	01/19/17 11:46	01/19/17 18:08	79-01-6	
Trichlorofluoromethane	<61.2	ug/kg	244	61.2	1	01/19/17 11:46	01/19/17 18:08	75-69-4	
Vinyl acetate	<64.4	ug/kg	609	64.4	1	01/19/17 11:46	01/19/17 18:08	108-05-4	
Vinyl chloride	<7.8	ug/kg	24.4	7.8	1	01/19/17 11:46	01/19/17 18:08	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-55 **Lab ID: 10376141016** Collected: 01/13/17 09:50 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.7	ug/kg	60.9	22.7	1	01/19/17 11:46	01/19/17 18:08	156-59-2	
cis-1,3-Dichloropropene	<27.8	ug/kg	60.9	27.8	1	01/19/17 11:46	01/19/17 18:08	10061-01-5	
m&p-Xylene	<30.6	ug/kg	122	30.6	1	01/19/17 11:46	01/19/17 18:08	179601-23-1	
o-Xylene	<18.2	ug/kg	60.9	18.2	1	01/19/17 11:46	01/19/17 18:08	95-47-6	
trans-1,2-Dichloroethene	<29.4	ug/kg	60.9	29.4	1	01/19/17 11:46	01/19/17 18:08	156-60-5	
trans-1,3-Dichloropropene	<20.7	ug/kg	244	20.7	1	01/19/17 11:46	01/19/17 18:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-129		1	01/19/17 11:46	01/19/17 18:08	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/19/17 11:46	01/19/17 18:08	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	01/19/17 11:46	01/19/17 18:08	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-60** Lab ID: **10376141017** Collected: 01/13/17 10:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	34.6	%	0.10	0.10	1		01/27/17 15:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.6	ug/kg	75.5	31.6	1	01/19/17 11:46	01/19/17 18:24	71-55-6	
1,1,2,2-Tetrachloroethane	<16.8	ug/kg	75.5	16.8	1	01/19/17 11:46	01/19/17 18:24	79-34-5	
1,1,2-Trichloroethane	<16.3	ug/kg	75.5	16.3	1	01/19/17 11:46	01/19/17 18:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<54.3	ug/kg	302	54.3	1	01/19/17 11:46	01/19/17 18:24	76-13-1	
1,1-Dichloroethane	<29.3	ug/kg	75.5	29.3	1	01/19/17 11:46	01/19/17 18:24	75-34-3	
1,1-Dichloroethene	<19.2	ug/kg	75.5	19.2	1	01/19/17 11:46	01/19/17 18:24	75-35-4	
1,2,4-Trichlorobenzene	<23.2	ug/kg	75.5	23.2	1	01/19/17 11:46	01/19/17 18:24	120-82-1	
1,2,4-Trimethylbenzene	<16.6	ug/kg	75.5	16.6	1	01/19/17 11:46	01/19/17 18:24	95-63-6	
1,2-Dibromoethane (EDB)	<28.4	ug/kg	75.5	28.4	1	01/19/17 11:46	01/19/17 18:24	106-93-4	
1,2-Dichlorobenzene	<14.6	ug/kg	75.5	14.6	1	01/19/17 11:46	01/19/17 18:24	95-50-1	
1,2-Dichloroethane	<23.9	ug/kg	75.5	23.9	1	01/19/17 11:46	01/19/17 18:24	107-06-2	
1,3,5-Trimethylbenzene	<17.4	ug/kg	75.5	17.4	1	01/19/17 11:46	01/19/17 18:24	108-67-8	
1,3-Dichlorobenzene	<14.6	ug/kg	75.5	14.6	1	01/19/17 11:46	01/19/17 18:24	541-73-1	
1,4-Dichlorobenzene	<21.9	ug/kg	75.5	21.9	1	01/19/17 11:46	01/19/17 18:24	106-46-7	
2-Butanone (MEK)	<99.6	ug/kg	377	99.6	1	01/19/17 11:46	01/19/17 18:24	78-93-3	
2-Hexanone	<88.9	ug/kg	377	88.9	1	01/19/17 11:46	01/19/17 18:24	591-78-6	
4-Methyl-2-pentanone (MIBK)	<50.0	ug/kg	377	50.0	1	01/19/17 11:46	01/19/17 18:24	108-10-1	
Acetone	<495	ug/kg	1510	495	1	01/19/17 11:46	01/19/17 18:24	67-64-1	
Benzene	<6.5	ug/kg	30.2	6.5	1	01/19/17 11:46	01/19/17 18:24	71-43-2	
Bromodichloromethane	<21.1	ug/kg	75.5	21.1	1	01/19/17 11:46	01/19/17 18:24	75-27-4	
Bromoform	<65.1	ug/kg	302	65.1	1	01/19/17 11:46	01/19/17 18:24	75-25-2	
Bromomethane	<76.5	ug/kg	755	76.5	1	01/19/17 11:46	01/19/17 18:24	74-83-9	
Carbon tetrachloride	<23.7	ug/kg	75.5	23.7	1	01/19/17 11:46	01/19/17 18:24	56-23-5	
Chlorobenzene	<13.1	ug/kg	75.5	13.1	1	01/19/17 11:46	01/19/17 18:24	108-90-7	
Chloroethane	<119	ug/kg	755	119	1	01/19/17 11:46	01/19/17 18:24	75-00-3	
Chloroform	<36.7	ug/kg	75.5	36.7	1	01/19/17 11:46	01/19/17 18:24	67-66-3	
Chloromethane	<36.5	ug/kg	302	36.5	1	01/19/17 11:46	01/19/17 18:24	74-87-3	
Dibromochloromethane	<64.8	ug/kg	302	64.8	1	01/19/17 11:46	01/19/17 18:24	124-48-1	
Dichlorodifluoromethane	<23.1	ug/kg	302	23.1	1	01/19/17 11:46	01/19/17 18:24	75-71-8	
Ethylbenzene	<24.0	ug/kg	75.5	24.0	1	01/19/17 11:46	01/19/17 18:24	100-41-4	
Hexachloro-1,3-butadiene	<71.0	ug/kg	377	71.0	1	01/19/17 11:46	01/19/17 18:24	87-68-3	
Methyl-tert-butyl ether	<14.1	ug/kg	75.5	14.1	1	01/19/17 11:46	01/19/17 18:24	1634-04-4	
Methylene Chloride	<140	ug/kg	302	140	1	01/19/17 11:46	01/19/17 18:24	75-09-2	
Naphthalene	<18.3	ug/kg	302	18.3	1	01/19/17 11:46	01/19/17 18:24	91-20-3	
Styrene	<19.6	ug/kg	75.5	19.6	1	01/19/17 11:46	01/19/17 18:24	100-42-5	
Tetrachloroethene	<28.8	ug/kg	75.5	28.8	1	01/19/17 11:46	01/19/17 18:24	127-18-4	
Tetrahydrofuran	<374	ug/kg	3020	374	1	01/19/17 11:46	01/19/17 18:24	109-99-9	
Toluene	<24.0	ug/kg	75.5	24.0	1	01/19/17 11:46	01/19/17 18:24	108-88-3	
Trichloroethene	<21.6	ug/kg	75.5	21.6	1	01/19/17 11:46	01/19/17 18:24	79-01-6	
Trichlorofluoromethane	<75.8	ug/kg	302	75.8	1	01/19/17 11:46	01/19/17 18:24	75-69-4	
Vinyl acetate	<79.9	ug/kg	755	79.9	1	01/19/17 11:46	01/19/17 18:24	108-05-4	
Vinyl chloride	<9.7	ug/kg	30.2	9.7	1	01/19/17 11:46	01/19/17 18:24	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-60 **Lab ID: 10376141017** Collected: 01/13/17 10:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<28.1	ug/kg	75.5	28.1	1	01/19/17 11:46	01/19/17 18:24	156-59-2	
cis-1,3-Dichloropropene	<34.4	ug/kg	75.5	34.4	1	01/19/17 11:46	01/19/17 18:24	10061-01-5	
m&p-Xylene	<37.9	ug/kg	151	37.9	1	01/19/17 11:46	01/19/17 18:24	179601-23-1	
o-Xylene	<22.5	ug/kg	75.5	22.5	1	01/19/17 11:46	01/19/17 18:24	95-47-6	
trans-1,2-Dichloroethene	<36.4	ug/kg	75.5	36.4	1	01/19/17 11:46	01/19/17 18:24	156-60-5	
trans-1,3-Dichloropropene	<25.7	ug/kg	302	25.7	1	01/19/17 11:46	01/19/17 18:24	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	87	%	75-129		1	01/19/17 11:46	01/19/17 18:24	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1	01/19/17 11:46	01/19/17 18:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	01/19/17 11:46	01/19/17 18:24	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

Sample: SB35-SS-65 **Lab ID: 10376141018** Collected: 01/13/17 10:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	35.7	%	0.10	0.10	1		01/27/17 15:51		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<35.1	ug/kg	83.9	35.1	1	01/20/17 10:47	01/20/17 15:57	71-55-6	
1,1,2,2-Tetrachloroethane	<18.6	ug/kg	83.9	18.6	1	01/20/17 10:47	01/20/17 15:57	79-34-5	
1,1,2-Trichloroethane	<18.1	ug/kg	83.9	18.1	1	01/20/17 10:47	01/20/17 15:57	79-00-5	
1,1,2-Trichlorotrifluoroethane	<60.4	ug/kg	336	60.4	1	01/20/17 10:47	01/20/17 15:57	76-13-1	
1,1-Dichloroethane	<32.6	ug/kg	83.9	32.6	1	01/20/17 10:47	01/20/17 15:57	75-34-3	
1,1-Dichloroethene	<21.3	ug/kg	83.9	21.3	1	01/20/17 10:47	01/20/17 15:57	75-35-4	
1,2,4-Trichlorobenzene	<25.9	ug/kg	83.9	25.9	1	01/20/17 10:47	01/20/17 15:57	120-82-1	
1,2,4-Trimethylbenzene	<18.5	ug/kg	83.9	18.5	1	01/20/17 10:47	01/20/17 15:57	95-63-6	
1,2-Dibromoethane (EDB)	<31.6	ug/kg	83.9	31.6	1	01/20/17 10:47	01/20/17 15:57	106-93-4	
1,2-Dichlorobenzene	<16.2	ug/kg	83.9	16.2	1	01/20/17 10:47	01/20/17 15:57	95-50-1	
1,2-Dichloroethane	<26.5	ug/kg	83.9	26.5	1	01/20/17 10:47	01/20/17 15:57	107-06-2	
1,3,5-Trimethylbenzene	<19.3	ug/kg	83.9	19.3	1	01/20/17 10:47	01/20/17 15:57	108-67-8	
1,3-Dichlorobenzene	<24.7	ug/kg	83.9	24.7	1	01/20/17 10:47	01/20/17 15:57	541-73-1	
1,4-Dichlorobenzene	<24.3	ug/kg	83.9	24.3	1	01/20/17 10:47	01/20/17 15:57	106-46-7	
2-Butanone (MEK)	<111	ug/kg	420	111	1	01/20/17 10:47	01/20/17 15:57	78-93-3	
2-Hexanone	<98.9	ug/kg	420	98.9	1	01/20/17 10:47	01/20/17 15:57	591-78-6	
4-Methyl-2-pentanone (MIBK)	<55.6	ug/kg	420	55.6	1	01/20/17 10:47	01/20/17 15:57	108-10-1	
Acetone	<551	ug/kg	1680	551	1	01/20/17 10:47	01/20/17 15:57	67-64-1	
Benzene	<7.3	ug/kg	33.6	7.3	1	01/20/17 10:47	01/20/17 15:57	71-43-2	
Bromodichloromethane	<23.5	ug/kg	83.9	23.5	1	01/20/17 10:47	01/20/17 15:57	75-27-4	
Bromoform	<72.4	ug/kg	336	72.4	1	01/20/17 10:47	01/20/17 15:57	75-25-2	
Bromomethane	<85.1	ug/kg	839	85.1	1	01/20/17 10:47	01/20/17 15:57	74-83-9	
Carbon tetrachloride	<26.4	ug/kg	83.9	26.4	1	01/20/17 10:47	01/20/17 15:57	56-23-5	
Chlorobenzene	<14.6	ug/kg	83.9	14.6	1	01/20/17 10:47	01/20/17 15:57	108-90-7	
Chloroethane	<133	ug/kg	839	133	1	01/20/17 10:47	01/20/17 15:57	75-00-3	
Chloroform	<40.8	ug/kg	83.9	40.8	1	01/20/17 10:47	01/20/17 15:57	67-66-3	
Chloromethane	<40.6	ug/kg	336	40.6	1	01/20/17 10:47	01/20/17 15:57	74-87-3	
Dibromochloromethane	<72.0	ug/kg	336	72.0	1	01/20/17 10:47	01/20/17 15:57	124-48-1	
Dichlorodifluoromethane	<25.7	ug/kg	336	25.7	1	01/20/17 10:47	01/20/17 15:57	75-71-8	M1
Ethylbenzene	<26.7	ug/kg	83.9	26.7	1	01/20/17 10:47	01/20/17 15:57	100-41-4	
Hexachloro-1,3-butadiene	<78.9	ug/kg	420	78.9	1	01/20/17 10:47	01/20/17 15:57	87-68-3	
Methyl-tert-butyl ether	<15.7	ug/kg	83.9	15.7	1	01/20/17 10:47	01/20/17 15:57	1634-04-4	
Methylene Chloride	<155	ug/kg	336	155	1	01/20/17 10:47	01/20/17 15:57	75-09-2	
Naphthalene	<20.3	ug/kg	336	20.3	1	01/20/17 10:47	01/20/17 15:57	91-20-3	
Styrene	<21.8	ug/kg	83.9	21.8	1	01/20/17 10:47	01/20/17 15:57	100-42-5	
Tetrachloroethene	<32.1	ug/kg	83.9	32.1	1	01/20/17 10:47	01/20/17 15:57	127-18-4	
Tetrahydrofuran	<416	ug/kg	3360	416	1	01/20/17 10:47	01/20/17 15:57	109-99-9	
Toluene	<26.7	ug/kg	83.9	26.7	1	01/20/17 10:47	01/20/17 15:57	108-88-3	
Trichloroethene	<24.0	ug/kg	83.9	24.0	1	01/20/17 10:47	01/20/17 15:57	79-01-6	
Trichlorofluoromethane	<84.3	ug/kg	336	84.3	1	01/20/17 10:47	01/20/17 15:57	75-69-4	
Vinyl acetate	<88.8	ug/kg	839	88.8	1	01/20/17 10:47	01/20/17 15:57	108-05-4	
Vinyl chloride	<10.8	ug/kg	33.6	10.8	1	01/20/17 10:47	01/20/17 15:57	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-65 **Lab ID: 10376141018** Collected: 01/13/17 10:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<31.2	ug/kg	83.9	31.2	1	01/20/17 10:47	01/20/17 15:57	156-59-2	
cis-1,3-Dichloropropene	<38.3	ug/kg	83.9	38.3	1	01/20/17 10:47	01/20/17 15:57	10061-01-5	
m&p-Xylene	<42.1	ug/kg	168	42.1	1	01/20/17 10:47	01/20/17 15:57	179601-23-1	
o-Xylene	<25.0	ug/kg	83.9	25.0	1	01/20/17 10:47	01/20/17 15:57	95-47-6	
trans-1,2-Dichloroethene	<40.5	ug/kg	83.9	40.5	1	01/20/17 10:47	01/20/17 15:57	156-60-5	
trans-1,3-Dichloropropene	<28.5	ug/kg	336	28.5	1	01/20/17 10:47	01/20/17 15:57	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-129		1	01/20/17 10:47	01/20/17 15:57	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	01/20/17 10:47	01/20/17 15:57	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	01/20/17 10:47	01/20/17 15:57	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-70** Lab ID: **10376141019** Collected: 01/13/17 12:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	34.7	%	0.10	0.10	1		01/27/17 15:51		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<32.5	ug/kg	77.8	32.5	1	01/20/17 10:47	01/20/17 16:15	71-55-6	
1,1,2,2-Tetrachloroethane	<17.3	ug/kg	77.8	17.3	1	01/20/17 10:47	01/20/17 16:15	79-34-5	
1,1,2-Trichloroethane	<16.8	ug/kg	77.8	16.8	1	01/20/17 10:47	01/20/17 16:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<56.0	ug/kg	311	56.0	1	01/20/17 10:47	01/20/17 16:15	76-13-1	
1,1-Dichloroethane	<30.2	ug/kg	77.8	30.2	1	01/20/17 10:47	01/20/17 16:15	75-34-3	
1,1-Dichloroethene	<19.8	ug/kg	77.8	19.8	1	01/20/17 10:47	01/20/17 16:15	75-35-4	
1,2,4-Trichlorobenzene	<24.0	ug/kg	77.8	24.0	1	01/20/17 10:47	01/20/17 16:15	120-82-1	
1,2,4-Trimethylbenzene	<17.1	ug/kg	77.8	17.1	1	01/20/17 10:47	01/20/17 16:15	95-63-6	
1,2-Dibromoethane (EDB)	<29.2	ug/kg	77.8	29.2	1	01/20/17 10:47	01/20/17 16:15	106-93-4	
1,2-Dichlorobenzene	<15.0	ug/kg	77.8	15.0	1	01/20/17 10:47	01/20/17 16:15	95-50-1	
1,2-Dichloroethane	<24.6	ug/kg	77.8	24.6	1	01/20/17 10:47	01/20/17 16:15	107-06-2	
1,3,5-Trimethylbenzene	<17.9	ug/kg	77.8	17.9	1	01/20/17 10:47	01/20/17 16:15	108-67-8	
1,3-Dichlorobenzene	<22.9	ug/kg	77.8	22.9	1	01/20/17 10:47	01/20/17 16:15	541-73-1	
1,4-Dichlorobenzene	<22.6	ug/kg	77.8	22.6	1	01/20/17 10:47	01/20/17 16:15	106-46-7	
2-Butanone (MEK)	<103	ug/kg	389	103	1	01/20/17 10:47	01/20/17 16:15	78-93-3	
2-Hexanone	<91.6	ug/kg	389	91.6	1	01/20/17 10:47	01/20/17 16:15	591-78-6	
4-Methyl-2-pentanone (MIBK)	<51.5	ug/kg	389	51.5	1	01/20/17 10:47	01/20/17 16:15	108-10-1	
Acetone	<510	ug/kg	1560	510	1	01/20/17 10:47	01/20/17 16:15	67-64-1	
Benzene	<6.7	ug/kg	31.1	6.7	1	01/20/17 10:47	01/20/17 16:15	71-43-2	
Bromodichloromethane	<21.8	ug/kg	77.8	21.8	1	01/20/17 10:47	01/20/17 16:15	75-27-4	
Bromoform	<67.0	ug/kg	311	67.0	1	01/20/17 10:47	01/20/17 16:15	75-25-2	
Bromomethane	<78.9	ug/kg	778	78.9	1	01/20/17 10:47	01/20/17 16:15	74-83-9	
Carbon tetrachloride	<24.4	ug/kg	77.8	24.4	1	01/20/17 10:47	01/20/17 16:15	56-23-5	
Chlorobenzene	<13.5	ug/kg	77.8	13.5	1	01/20/17 10:47	01/20/17 16:15	108-90-7	
Chloroethane	<123	ug/kg	778	123	1	01/20/17 10:47	01/20/17 16:15	75-00-3	
Chloroform	<37.8	ug/kg	77.8	37.8	1	01/20/17 10:47	01/20/17 16:15	67-66-3	
Chloromethane	<37.6	ug/kg	311	37.6	1	01/20/17 10:47	01/20/17 16:15	74-87-3	
Dibromochloromethane	<66.7	ug/kg	311	66.7	1	01/20/17 10:47	01/20/17 16:15	124-48-1	
Dichlorodifluoromethane	<23.8	ug/kg	311	23.8	1	01/20/17 10:47	01/20/17 16:15	75-71-8	
Ethylbenzene	<24.7	ug/kg	77.8	24.7	1	01/20/17 10:47	01/20/17 16:15	100-41-4	
Hexachloro-1,3-butadiene	<73.1	ug/kg	389	73.1	1	01/20/17 10:47	01/20/17 16:15	87-68-3	
Methyl-tert-butyl ether	<14.6	ug/kg	77.8	14.6	1	01/20/17 10:47	01/20/17 16:15	1634-04-4	
Methylene Chloride	<144	ug/kg	311	144	1	01/20/17 10:47	01/20/17 16:15	75-09-2	
Naphthalene	<18.8	ug/kg	311	18.8	1	01/20/17 10:47	01/20/17 16:15	91-20-3	
Styrene	<20.2	ug/kg	77.8	20.2	1	01/20/17 10:47	01/20/17 16:15	100-42-5	
Tetrachloroethene	<29.7	ug/kg	77.8	29.7	1	01/20/17 10:47	01/20/17 16:15	127-18-4	
Tetrahydrofuran	<386	ug/kg	3110	386	1	01/20/17 10:47	01/20/17 16:15	109-99-9	
Toluene	<24.7	ug/kg	77.8	24.7	1	01/20/17 10:47	01/20/17 16:15	108-88-3	
Trichloroethene	<22.2	ug/kg	77.8	22.2	1	01/20/17 10:47	01/20/17 16:15	79-01-6	
Trichlorofluoromethane	<78.1	ug/kg	311	78.1	1	01/20/17 10:47	01/20/17 16:15	75-69-4	
Vinyl acetate	<82.3	ug/kg	778	82.3	1	01/20/17 10:47	01/20/17 16:15	108-05-4	
Vinyl chloride	<10	ug/kg	31.1	10	1	01/20/17 10:47	01/20/17 16:15	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-70 **Lab ID: 10376141019** Collected: 01/13/17 12:20 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<28.9	ug/kg	77.8	28.9	1	01/20/17 10:47	01/20/17 16:15	156-59-2	
cis-1,3-Dichloropropene	<35.5	ug/kg	77.8	35.5	1	01/20/17 10:47	01/20/17 16:15	10061-01-5	
m&p-Xylene	<39.0	ug/kg	156	39.0	1	01/20/17 10:47	01/20/17 16:15	179601-23-1	
o-Xylene	<23.2	ug/kg	77.8	23.2	1	01/20/17 10:47	01/20/17 16:15	95-47-6	
trans-1,2-Dichloroethene	<37.5	ug/kg	77.8	37.5	1	01/20/17 10:47	01/20/17 16:15	156-60-5	
trans-1,3-Dichloropropene	<26.4	ug/kg	311	26.4	1	01/20/17 10:47	01/20/17 16:15	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-129		1	01/20/17 10:47	01/20/17 16:15	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	01/20/17 10:47	01/20/17 16:15	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	01/20/17 10:47	01/20/17 16:15	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-75** Lab ID: **10376141020** Collected: 01/13/17 12:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	33.9	%	0.10	0.10	1		01/30/17 10:17		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<34.0	ug/kg	81.2	34.0	1	01/20/17 10:47	01/20/17 19:17	71-55-6	
1,1,2,2-Tetrachloroethane	<18.0	ug/kg	81.2	18.0	1	01/20/17 10:47	01/20/17 19:17	79-34-5	
1,1,2-Trichloroethane	<17.5	ug/kg	81.2	17.5	1	01/20/17 10:47	01/20/17 19:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<58.5	ug/kg	325	58.5	1	01/20/17 10:47	01/20/17 19:17	76-13-1	
1,1-Dichloroethane	<31.5	ug/kg	81.2	31.5	1	01/20/17 10:47	01/20/17 19:17	75-34-3	
1,1-Dichloroethene	<20.6	ug/kg	81.2	20.6	1	01/20/17 10:47	01/20/17 19:17	75-35-4	
1,2,4-Trichlorobenzene	<25.0	ug/kg	81.2	25.0	1	01/20/17 10:47	01/20/17 19:17	120-82-1	
1,2,4-Trimethylbenzene	<17.9	ug/kg	81.2	17.9	1	01/20/17 10:47	01/20/17 19:17	95-63-6	
1,2-Dibromoethane (EDB)	<30.5	ug/kg	81.2	30.5	1	01/20/17 10:47	01/20/17 19:17	106-93-4	
1,2-Dichlorobenzene	<15.7	ug/kg	81.2	15.7	1	01/20/17 10:47	01/20/17 19:17	95-50-1	
1,2-Dichloroethane	<25.7	ug/kg	81.2	25.7	1	01/20/17 10:47	01/20/17 19:17	107-06-2	
1,3,5-Trimethylbenzene	<18.7	ug/kg	81.2	18.7	1	01/20/17 10:47	01/20/17 19:17	108-67-8	
1,3-Dichlorobenzene	<15.7	ug/kg	81.2	15.7	1	01/20/17 10:47	01/20/17 19:17	541-73-1	
1,4-Dichlorobenzene	<23.6	ug/kg	81.2	23.6	1	01/20/17 10:47	01/20/17 19:17	106-46-7	
2-Butanone (MEK)	<107	ug/kg	406	107	1	01/20/17 10:47	01/20/17 19:17	78-93-3	
2-Hexanone	<95.7	ug/kg	406	95.7	1	01/20/17 10:47	01/20/17 19:17	591-78-6	
4-Methyl-2-pentanone (MIBK)	<53.8	ug/kg	406	53.8	1	01/20/17 10:47	01/20/17 19:17	108-10-1	
Acetone	<533	ug/kg	1620	533	1	01/20/17 10:47	01/20/17 19:17	67-64-1	
Benzene	<7.0	ug/kg	32.5	7.0	1	01/20/17 10:47	01/20/17 19:17	71-43-2	
Bromodichloromethane	<22.7	ug/kg	81.2	22.7	1	01/20/17 10:47	01/20/17 19:17	75-27-4	
Bromoform	<70.0	ug/kg	325	70.0	1	01/20/17 10:47	01/20/17 19:17	75-25-2	
Bromomethane	<82.4	ug/kg	812	82.4	1	01/20/17 10:47	01/20/17 19:17	74-83-9	
Carbon tetrachloride	<25.5	ug/kg	81.2	25.5	1	01/20/17 10:47	01/20/17 19:17	56-23-5	
Chlorobenzene	<14.1	ug/kg	81.2	14.1	1	01/20/17 10:47	01/20/17 19:17	108-90-7	
Chloroethane	<128	ug/kg	812	128	1	01/20/17 10:47	01/20/17 19:17	75-00-3	
Chloroform	<39.5	ug/kg	81.2	39.5	1	01/20/17 10:47	01/20/17 19:17	67-66-3	
Chloromethane	<39.3	ug/kg	325	39.3	1	01/20/17 10:47	01/20/17 19:17	74-87-3	
Dibromochloromethane	<69.7	ug/kg	325	69.7	1	01/20/17 10:47	01/20/17 19:17	124-48-1	
Dichlorodifluoromethane	<24.9	ug/kg	325	24.9	1	01/20/17 10:47	01/20/17 19:17	75-71-8	
Ethylbenzene	<25.8	ug/kg	81.2	25.8	1	01/20/17 10:47	01/20/17 19:17	100-41-4	
Hexachloro-1,3-butadiene	<76.4	ug/kg	406	76.4	1	01/20/17 10:47	01/20/17 19:17	87-68-3	
Methyl-tert-butyl ether	<15.2	ug/kg	81.2	15.2	1	01/20/17 10:47	01/20/17 19:17	1634-04-4	
Methylene Chloride	<150	ug/kg	325	150	1	01/20/17 10:47	01/20/17 19:17	75-09-2	
Naphthalene	<19.7	ug/kg	325	19.7	1	01/20/17 10:47	01/20/17 19:17	91-20-3	
Styrene	<21.1	ug/kg	81.2	21.1	1	01/20/17 10:47	01/20/17 19:17	100-42-5	
Tetrachloroethene	<31.0	ug/kg	81.2	31.0	1	01/20/17 10:47	01/20/17 19:17	127-18-4	
Tetrahydrofuran	<403	ug/kg	3250	403	1	01/20/17 10:47	01/20/17 19:17	109-99-9	
Toluene	<25.8	ug/kg	81.2	25.8	1	01/20/17 10:47	01/20/17 19:17	108-88-3	
Trichloroethene	<23.2	ug/kg	81.2	23.2	1	01/20/17 10:47	01/20/17 19:17	79-01-6	
Trichlorofluoromethane	<81.6	ug/kg	325	81.6	1	01/20/17 10:47	01/20/17 19:17	75-69-4	
Vinyl acetate	<86.0	ug/kg	812	86.0	1	01/20/17 10:47	01/20/17 19:17	108-05-4	
Vinyl chloride	<10.4	ug/kg	32.5	10.4	1	01/20/17 10:47	01/20/17 19:17	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-75 **Lab ID: 10376141020** Collected: 01/13/17 12:30 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<30.2	ug/kg	81.2	30.2	1	01/20/17 10:47	01/20/17 19:17	156-59-2	
cis-1,3-Dichloropropene	<37.0	ug/kg	81.2	37.0	1	01/20/17 10:47	01/20/17 19:17	10061-01-5	
m&p-Xylene	<40.8	ug/kg	162	40.8	1	01/20/17 10:47	01/20/17 19:17	179601-23-1	
o-Xylene	<24.2	ug/kg	81.2	24.2	1	01/20/17 10:47	01/20/17 19:17	95-47-6	
trans-1,2-Dichloroethene	<39.2	ug/kg	81.2	39.2	1	01/20/17 10:47	01/20/17 19:17	156-60-5	
trans-1,3-Dichloropropene	<27.6	ug/kg	325	27.6	1	01/20/17 10:47	01/20/17 19:17	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-129		1	01/20/17 10:47	01/20/17 19:17	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1	01/20/17 10:47	01/20/17 19:17	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	01/20/17 10:47	01/20/17 19:17	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-SS-80** Lab ID: **10376141021** Collected: 01/13/17 13:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	27.9	%	0.10	0.10	1		01/30/17 10:17		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<29.0	ug/kg	69.4	29.0	1	01/20/17 10:47	01/20/17 19:33	71-55-6	
1,1,2,2-Tetrachloroethane	<15.4	ug/kg	69.4	15.4	1	01/20/17 10:47	01/20/17 19:33	79-34-5	
1,1,2-Trichloroethane	<15.0	ug/kg	69.4	15.0	1	01/20/17 10:47	01/20/17 19:33	79-00-5	
1,1,2-Trichlorotrifluoroethane	<50.0	ug/kg	278	50.0	1	01/20/17 10:47	01/20/17 19:33	76-13-1	
1,1-Dichloroethane	<26.9	ug/kg	69.4	26.9	1	01/20/17 10:47	01/20/17 19:33	75-34-3	
1,1-Dichloroethene	<17.6	ug/kg	69.4	17.6	1	01/20/17 10:47	01/20/17 19:33	75-35-4	
1,2,4-Trichlorobenzene	<21.4	ug/kg	69.4	21.4	1	01/20/17 10:47	01/20/17 19:33	120-82-1	
1,2,4-Trimethylbenzene	<15.3	ug/kg	69.4	15.3	1	01/20/17 10:47	01/20/17 19:33	95-63-6	
1,2-Dibromoethane (EDB)	<26.1	ug/kg	69.4	26.1	1	01/20/17 10:47	01/20/17 19:33	106-93-4	
1,2-Dichlorobenzene	<13.4	ug/kg	69.4	13.4	1	01/20/17 10:47	01/20/17 19:33	95-50-1	
1,2-Dichloroethane	<21.9	ug/kg	69.4	21.9	1	01/20/17 10:47	01/20/17 19:33	107-06-2	
1,3,5-Trimethylbenzene	<16.0	ug/kg	69.4	16.0	1	01/20/17 10:47	01/20/17 19:33	108-67-8	
1,3-Dichlorobenzene	<13.4	ug/kg	69.4	13.4	1	01/20/17 10:47	01/20/17 19:33	541-73-1	
1,4-Dichlorobenzene	<20.1	ug/kg	69.4	20.1	1	01/20/17 10:47	01/20/17 19:33	106-46-7	
2-Butanone (MEK)	<91.7	ug/kg	347	91.7	1	01/20/17 10:47	01/20/17 19:33	78-93-3	
2-Hexanone	<81.8	ug/kg	347	81.8	1	01/20/17 10:47	01/20/17 19:33	591-78-6	
4-Methyl-2-pentanone (MIBK)	<46.0	ug/kg	347	46.0	1	01/20/17 10:47	01/20/17 19:33	108-10-1	
Acetone	<455	ug/kg	1390	455	1	01/20/17 10:47	01/20/17 19:33	67-64-1	
Benzene	<6.0	ug/kg	27.8	6.0	1	01/20/17 10:47	01/20/17 19:33	71-43-2	
Bromodichloromethane	<19.4	ug/kg	69.4	19.4	1	01/20/17 10:47	01/20/17 19:33	75-27-4	
Bromoform	<59.9	ug/kg	278	59.9	1	01/20/17 10:47	01/20/17 19:33	75-25-2	
Bromomethane	<70.4	ug/kg	694	70.4	1	01/20/17 10:47	01/20/17 19:33	74-83-9	
Carbon tetrachloride	<21.8	ug/kg	69.4	21.8	1	01/20/17 10:47	01/20/17 19:33	56-23-5	
Chlorobenzene	<12.1	ug/kg	69.4	12.1	1	01/20/17 10:47	01/20/17 19:33	108-90-7	
Chloroethane	<110	ug/kg	694	110	1	01/20/17 10:47	01/20/17 19:33	75-00-3	
Chloroform	<33.7	ug/kg	69.4	33.7	1	01/20/17 10:47	01/20/17 19:33	67-66-3	
Chloromethane	<33.6	ug/kg	278	33.6	1	01/20/17 10:47	01/20/17 19:33	74-87-3	
Dibromochloromethane	<59.6	ug/kg	278	59.6	1	01/20/17 10:47	01/20/17 19:33	124-48-1	
Dichlorodifluoromethane	<21.2	ug/kg	278	21.2	1	01/20/17 10:47	01/20/17 19:33	75-71-8	
Ethylbenzene	<22.1	ug/kg	69.4	22.1	1	01/20/17 10:47	01/20/17 19:33	100-41-4	
Hexachloro-1,3-butadiene	<65.3	ug/kg	347	65.3	1	01/20/17 10:47	01/20/17 19:33	87-68-3	
Methyl-tert-butyl ether	<13.0	ug/kg	69.4	13.0	1	01/20/17 10:47	01/20/17 19:33	1634-04-4	
Methylene Chloride	<129	ug/kg	278	129	1	01/20/17 10:47	01/20/17 19:33	75-09-2	
Naphthalene	<16.8	ug/kg	278	16.8	1	01/20/17 10:47	01/20/17 19:33	91-20-3	
Styrene	<18.1	ug/kg	69.4	18.1	1	01/20/17 10:47	01/20/17 19:33	100-42-5	
Tetrachloroethene	<26.5	ug/kg	69.4	26.5	1	01/20/17 10:47	01/20/17 19:33	127-18-4	
Tetrahydrofuran	<344	ug/kg	2780	344	1	01/20/17 10:47	01/20/17 19:33	109-99-9	
Toluene	<22.1	ug/kg	69.4	22.1	1	01/20/17 10:47	01/20/17 19:33	108-88-3	
Trichloroethene	<19.9	ug/kg	69.4	19.9	1	01/20/17 10:47	01/20/17 19:33	79-01-6	
Trichlorofluoromethane	<69.7	ug/kg	278	69.7	1	01/20/17 10:47	01/20/17 19:33	75-69-4	
Vinyl acetate	<73.5	ug/kg	694	73.5	1	01/20/17 10:47	01/20/17 19:33	108-05-4	
Vinyl chloride	<8.9	ug/kg	27.8	8.9	1	01/20/17 10:47	01/20/17 19:33	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-SS-80 **Lab ID: 10376141021** Collected: 01/13/17 13:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.8	ug/kg	69.4	25.8	1	01/20/17 10:47	01/20/17 19:33	156-59-2	
cis-1,3-Dichloropropene	<31.7	ug/kg	69.4	31.7	1	01/20/17 10:47	01/20/17 19:33	10061-01-5	
m&p-Xylene	<34.9	ug/kg	139	34.9	1	01/20/17 10:47	01/20/17 19:33	179601-23-1	
o-Xylene	<20.7	ug/kg	69.4	20.7	1	01/20/17 10:47	01/20/17 19:33	95-47-6	
trans-1,2-Dichloroethene	<33.5	ug/kg	69.4	33.5	1	01/20/17 10:47	01/20/17 19:33	156-60-5	
trans-1,3-Dichloropropene	<23.6	ug/kg	278	23.6	1	01/20/17 10:47	01/20/17 19:33	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	84	%	75-129		1	01/20/17 10:47	01/20/17 19:33	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1	01/20/17 10:47	01/20/17 19:33	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	01/20/17 10:47	01/20/17 19:33	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SSFD-5 **Lab ID: 10376141022** Collected: 01/13/17 10:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	38.3	%	0.10	0.10	1		01/30/17 10:17		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.5	ug/kg	75.4	31.5	1	01/20/17 10:47	01/20/17 19:50	71-55-6	
1,1,2,2-Tetrachloroethane	<16.7	ug/kg	75.4	16.7	1	01/20/17 10:47	01/20/17 19:50	79-34-5	
1,1,2-Trichloroethane	<16.3	ug/kg	75.4	16.3	1	01/20/17 10:47	01/20/17 19:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<54.3	ug/kg	302	54.3	1	01/20/17 10:47	01/20/17 19:50	76-13-1	
1,1-Dichloroethane	<29.3	ug/kg	75.4	29.3	1	01/20/17 10:47	01/20/17 19:50	75-34-3	
1,1-Dichloroethene	<19.2	ug/kg	75.4	19.2	1	01/20/17 10:47	01/20/17 19:50	75-35-4	
1,2,4-Trichlorobenzene	<23.2	ug/kg	75.4	23.2	1	01/20/17 10:47	01/20/17 19:50	120-82-1	
1,2,4-Trimethylbenzene	<16.6	ug/kg	75.4	16.6	1	01/20/17 10:47	01/20/17 19:50	95-63-6	
1,2-Dibromoethane (EDB)	<28.4	ug/kg	75.4	28.4	1	01/20/17 10:47	01/20/17 19:50	106-93-4	
1,2-Dichlorobenzene	<14.6	ug/kg	75.4	14.6	1	01/20/17 10:47	01/20/17 19:50	95-50-1	
1,2-Dichloroethane	<23.8	ug/kg	75.4	23.8	1	01/20/17 10:47	01/20/17 19:50	107-06-2	
1,3,5-Trimethylbenzene	<17.3	ug/kg	75.4	17.3	1	01/20/17 10:47	01/20/17 19:50	108-67-8	
1,3-Dichlorobenzene	<14.6	ug/kg	75.4	14.6	1	01/20/17 10:47	01/20/17 19:50	541-73-1	
1,4-Dichlorobenzene	<21.9	ug/kg	75.4	21.9	1	01/20/17 10:47	01/20/17 19:50	106-46-7	
2-Butanone (MEK)	<99.5	ug/kg	377	99.5	1	01/20/17 10:47	01/20/17 19:50	78-93-3	
2-Hexanone	<88.8	ug/kg	377	88.8	1	01/20/17 10:47	01/20/17 19:50	591-78-6	
4-Methyl-2-pentanone (MIBK)	<49.9	ug/kg	377	49.9	1	01/20/17 10:47	01/20/17 19:50	108-10-1	
Acetone	<495	ug/kg	1510	495	1	01/20/17 10:47	01/20/17 19:50	67-64-1	
Benzene	<6.5	ug/kg	30.2	6.5	1	01/20/17 10:47	01/20/17 19:50	71-43-2	
Bromodichloromethane	<21.1	ug/kg	75.4	21.1	1	01/20/17 10:47	01/20/17 19:50	75-27-4	
Bromoform	<65.0	ug/kg	302	65.0	1	01/20/17 10:47	01/20/17 19:50	75-25-2	
Bromomethane	<76.5	ug/kg	754	76.5	1	01/20/17 10:47	01/20/17 19:50	74-83-9	
Carbon tetrachloride	<23.7	ug/kg	75.4	23.7	1	01/20/17 10:47	01/20/17 19:50	56-23-5	
Chlorobenzene	<13.1	ug/kg	75.4	13.1	1	01/20/17 10:47	01/20/17 19:50	108-90-7	
Chloroethane	<119	ug/kg	754	119	1	01/20/17 10:47	01/20/17 19:50	75-00-3	
Chloroform	<36.6	ug/kg	75.4	36.6	1	01/20/17 10:47	01/20/17 19:50	67-66-3	
Chloromethane	<36.5	ug/kg	302	36.5	1	01/20/17 10:47	01/20/17 19:50	74-87-3	
Dibromochloromethane	<64.7	ug/kg	302	64.7	1	01/20/17 10:47	01/20/17 19:50	124-48-1	
Dichlorodifluoromethane	<23.1	ug/kg	302	23.1	1	01/20/17 10:47	01/20/17 19:50	75-71-8	
Ethylbenzene	<24.0	ug/kg	75.4	24.0	1	01/20/17 10:47	01/20/17 19:50	100-41-4	
Hexachloro-1,3-butadiene	<70.9	ug/kg	377	70.9	1	01/20/17 10:47	01/20/17 19:50	87-68-3	
Methyl-tert-butyl ether	<14.1	ug/kg	75.4	14.1	1	01/20/17 10:47	01/20/17 19:50	1634-04-4	
Methylene Chloride	<140	ug/kg	302	140	1	01/20/17 10:47	01/20/17 19:50	75-09-2	
Naphthalene	<18.2	ug/kg	302	18.2	1	01/20/17 10:47	01/20/17 19:50	91-20-3	
Styrene	<19.6	ug/kg	75.4	19.6	1	01/20/17 10:47	01/20/17 19:50	100-42-5	
Tetrachloroethene	<28.8	ug/kg	75.4	28.8	1	01/20/17 10:47	01/20/17 19:50	127-18-4	
Tetrahydrofuran	<374	ug/kg	3020	374	1	01/20/17 10:47	01/20/17 19:50	109-99-9	
Toluene	<24.0	ug/kg	75.4	24.0	1	01/20/17 10:47	01/20/17 19:50	108-88-3	
Trichloroethene	<21.6	ug/kg	75.4	21.6	1	01/20/17 10:47	01/20/17 19:50	79-01-6	
Trichlorofluoromethane	<75.7	ug/kg	302	75.7	1	01/20/17 10:47	01/20/17 19:50	75-69-4	
Vinyl acetate	<79.8	ug/kg	754	79.8	1	01/20/17 10:47	01/20/17 19:50	108-05-4	
Vinyl chloride	<9.7	ug/kg	30.2	9.7	1	01/20/17 10:47	01/20/17 19:50	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SSFD-5 **Lab ID: 10376141022** Collected: 01/13/17 10:00 Received: 01/17/17 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<28.0	ug/kg	75.4	28.0	1	01/20/17 10:47	01/20/17 19:50	156-59-2	
cis-1,3-Dichloropropene	<34.4	ug/kg	75.4	34.4	1	01/20/17 10:47	01/20/17 19:50	10061-01-5	
m&p-Xylene	<37.9	ug/kg	151	37.9	1	01/20/17 10:47	01/20/17 19:50	179601-23-1	
o-Xylene	<22.5	ug/kg	75.4	22.5	1	01/20/17 10:47	01/20/17 19:50	95-47-6	
trans-1,2-Dichloroethene	<36.3	ug/kg	75.4	36.3	1	01/20/17 10:47	01/20/17 19:50	156-60-5	
trans-1,3-Dichloropropene	<25.6	ug/kg	302	25.6	1	01/20/17 10:47	01/20/17 19:50	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	90	%	75-129		1	01/20/17 10:47	01/20/17 19:50	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1	01/20/17 10:47	01/20/17 19:50	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1	01/20/17 10:47	01/20/17 19:50	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: **SB35-GW-69-71** Lab ID: **10376141023** Collected: 01/13/17 11:50 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 20:32	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/19/17 20:32	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 20:32	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 20:32	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/19/17 20:32	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 20:32	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/19/17 20:32	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/19/17 20:32	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/19/17 20:32	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/19/17 20:32	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/19/17 20:32	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/19/17 20:32	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/19/17 20:32	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/19/17 20:32	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/19/17 20:32	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/19/17 20:32	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/19/17 20:32	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/19/17 20:32	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/19/17 20:32	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/19/17 20:32	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/19/17 20:32	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/19/17 20:32	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/19/17 20:32	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/19/17 20:32	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/19/17 20:32	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/19/17 20:32	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/19/17 20:32	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/19/17 20:32	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/19/17 20:32	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/19/17 20:32	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/19/17 20:32	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/19/17 20:32	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/19/17 20:32	107-13-1	
Benzene	0.25J	ug/L	0.50	0.042	1		01/19/17 20:32	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/19/17 20:32	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/19/17 20:32	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/19/17 20:32	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/19/17 20:32	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/19/17 20:32	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/19/17 20:32	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/19/17 20:32	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/19/17 20:32	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/19/17 20:32	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/19/17 20:32	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/19/17 20:32	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/19/17 20:32	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Sample: SB35-GW-69-71 **Lab ID: 10376141023** Collected: 01/13/17 11:50 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/19/17 20:32	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/19/17 20:32	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/19/17 20:32	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/19/17 20:32	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/19/17 20:32	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/19/17 20:32	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/19/17 20:32	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/19/17 20:32	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/19/17 20:32	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/19/17 20:32	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/19/17 20:32	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/19/17 20:32	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/19/17 20:32	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/19/17 20:32	109-99-9	
Toluene	0.28J	ug/L	0.50	0.059	1		01/19/17 20:32	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/19/17 20:32	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/19/17 20:32	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/19/17 20:32	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/19/17 20:32	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/19/17 20:32	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/19/17 20:32	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/19/17 20:32	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/19/17 20:32	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/19/17 20:32	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/19/17 20:32	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/19/17 20:32	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/19/17 20:32	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/19/17 20:32	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/19/17 20:32	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/19/17 20:32	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/19/17 20:32	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/19/17 20:32	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/19/17 20:32	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/19/17 20:32	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		01/19/17 20:32	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		01/19/17 20:32	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		01/19/17 20:32	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

QC Batch: 455929 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10376141001, 10376141002, 10376141003

METHOD BLANK: 2495801 Matrix: Solid
Associated Lab Samples: 10376141001, 10376141002, 10376141003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	01/18/17 00:01	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	01/18/17 00:01	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	01/18/17 00:01	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	01/18/17 00:01	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	01/18/17 00:01	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	01/18/17 00:01	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	01/18/17 00:01	
1,2,4-Trimethylbenzene	ug/kg	14.8J	50.0	11.0	01/18/17 00:01	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	01/18/17 00:01	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/18/17 00:01	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	01/18/17 00:01	
1,3,5-Trimethylbenzene	ug/kg	13.3J	50.0	11.5	01/18/17 00:01	
1,3-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/18/17 00:01	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	01/18/17 00:01	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	01/18/17 00:01	
2-Hexanone	ug/kg	<58.9	250	58.9	01/18/17 00:01	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	01/18/17 00:01	
Acetone	ug/kg	<328	1000	328	01/18/17 00:01	
Benzene	ug/kg	<4.3	20.0	4.3	01/18/17 00:01	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	01/18/17 00:01	
Bromoform	ug/kg	<43.1	200	43.1	01/18/17 00:01	
Bromomethane	ug/kg	<50.7	500	50.7	01/18/17 00:01	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	01/18/17 00:01	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	01/18/17 00:01	
Chloroethane	ug/kg	<79.0	500	79.0	01/18/17 00:01	
Chloroform	ug/kg	<24.3	50.0	24.3	01/18/17 00:01	
Chloromethane	ug/kg	<24.2	200	24.2	01/18/17 00:01	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	01/18/17 00:01	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	01/18/17 00:01	
Dibromochloromethane	ug/kg	<42.9	200	42.9	01/18/17 00:01	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	01/18/17 00:01	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	01/18/17 00:01	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	01/18/17 00:01	
m&p-Xylene	ug/kg	<25.1	100	25.1	01/18/17 00:01	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	01/18/17 00:01	
Methylene Chloride	ug/kg	<92.6	200	92.6	01/18/17 00:01	
Naphthalene	ug/kg	<12.1	200	12.1	01/18/17 00:01	
o-Xylene	ug/kg	<14.9	50.0	14.9	01/18/17 00:01	
Styrene	ug/kg	<13.0	50.0	13.0	01/18/17 00:01	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	01/18/17 00:01	
Tetrahydrofuran	ug/kg	<248	2000	248	01/18/17 00:01	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

METHOD BLANK: 2495801 Matrix: Solid
Associated Lab Samples: 10376141001, 10376141002, 10376141003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<15.9	50.0	15.9	01/18/17 00:01	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	01/18/17 00:01	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	01/18/17 00:01	
Trichloroethene	ug/kg	<14.3	50.0	14.3	01/18/17 00:01	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	01/18/17 00:01	
Vinyl acetate	ug/kg	<52.9	500	52.9	01/18/17 00:01	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	01/18/17 00:01	
1,2-Dichloroethane-d4 (S)	%	87	75-129		01/18/17 00:01	
4-Bromofluorobenzene (S)	%	104	75-125		01/18/17 00:01	
Toluene-d8 (S)	%	98	75-125		01/18/17 00:01	

LABORATORY CONTROL SAMPLE & LCSD: 2495802 2495803

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	822	800	82	80	64-132	3	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	845	867	84	87	50-138	3	20	
1,1,2-Trichloroethane	ug/kg	1000	886	919	89	92	69-126	4	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	924	868	92	87	53-144	6	20	
1,1-Dichloroethane	ug/kg	1000	832	817	83	82	61-134	2	20	
1,1-Dichloroethene	ug/kg	1000	928	871	93	87	57-135	6	20	
1,2,4-Trichlorobenzene	ug/kg	1000	750	812	75	81	38-138	8	20	
1,2,4-Trimethylbenzene	ug/kg	1000	837	859	84	86	70-127	3	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	885	877	88	88	69-130	1	20	
1,2-Dichlorobenzene	ug/kg	1000	840	853	84	85	72-125	1	20	
1,2-Dichloroethane	ug/kg	1000	736	709	74	71	62-125	4	20	
1,3,5-Trimethylbenzene	ug/kg	1000	859	878	86	88	71-129	2	20	
1,3-Dichlorobenzene	ug/kg	1000	832	864	83	86	72-126	4	20	
1,4-Dichlorobenzene	ug/kg	1000	846	913	85	91	70-126	8	20	
2-Butanone (MEK)	ug/kg	5000	4120	4120	82	82	38-149	0	20	
2-Hexanone	ug/kg	5000	4360	4420	87	88	47-139	1	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4360	4350	87	87	52-145	0	20	
Acetone	ug/kg	5000	4700	4830	94	97	65-142	3	20	
Benzene	ug/kg	1000	852	846	85	85	64-125	1	20	
Bromodichloromethane	ug/kg	1000	805	795	80	80	67-125	1	20	
Bromoform	ug/kg	1000	770	734	77	73	56-127	5	20	
Bromomethane	ug/kg	1000	808	789	81	79	34-137	2	20	
Carbon tetrachloride	ug/kg	1000	791	772	79	77	58-138	2	20	
Chlorobenzene	ug/kg	1000	864	893	86	89	72-125	3	20	
Chloroethane	ug/kg	1000	943	704	94	70	39-148	29	20	R1
Chloroform	ug/kg	1000	823	841	82	84	67-125	2	20	
Chloromethane	ug/kg	1000	749	748	75	75	54-125	0	20	
cis-1,2-Dichloroethene	ug/kg	1000	865	890	87	89	67-125	3	20	
cis-1,3-Dichloropropene	ug/kg	1000	810	831	81	83	62-127	3	20	
Dibromochloromethane	ug/kg	1000	798	757	80	76	67-125	5	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

LABORATORY CONTROL SAMPLE & LCSD: 2495802

Parameter	Units	2495803		LCS Result	LCS % Rec	LCS % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCSD Result							
Dichlorodifluoromethane	ug/kg	1000	525	527	52	53	34-139	1	20	
Ethylbenzene	ug/kg	1000	866	922	87	92	70-129	6	20	
Hexachloro-1,3-butadiene	ug/kg	1000	734	776	73	78	48-126	6	20	
m&p-Xylene	ug/kg	2000	1780	1840	89	92	73-131	3	20	
Methyl-tert-butyl ether	ug/kg	1000	830	811	83	81	61-125	2	20	
Methylene Chloride	ug/kg	1000	828	811	83	81	60-126	2	20	
Naphthalene	ug/kg	1000	753	859	75	86	35-147	13	20	
o-Xylene	ug/kg	1000	839	873	84	87	74-127	4	20	
Styrene	ug/kg	1000	879	908	88	91	73-125	3	20	
Tetrachloroethene	ug/kg	1000	849	906	85	91	66-135	6	20	
Tetrahydrofuran	ug/kg	10000	8570	8330	86	83	66-145	3	20	
Toluene	ug/kg	1000	917	938	92	94	69-125	2	20	
trans-1,2-Dichloroethene	ug/kg	1000	795	813	79	81	55-135	2	20	
trans-1,3-Dichloropropene	ug/kg	1000	870	906	87	91	67-125	4	20	
Trichloroethene	ug/kg	1000	818	854	82	85	62-141	4	20	
Trichlorofluoromethane	ug/kg	1000	1060	693	106	69	38-150	42	20	R1
Vinyl acetate	ug/kg	1000	803	786	80	79	52-125	2	20	
Vinyl chloride	ug/kg	1000	868	855	87	85	57-131	2	20	
1,2-Dichloroethane-d4 (S)	%				89	89	75-129			
4-Bromofluorobenzene (S)	%				101	99	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2496603

Parameter	Units	10376141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,2,2-Tetrachloroethane	ug/kg	<15.9	1400	1570	112	40-149	
1,1,2-Trichloroethane	ug/kg	<15.4	1400	1520	109	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	<51.5	1400	991	71	41-150	
1,1-Dichloroethane	ug/kg	<27.7	1400	1370	98	53-131	
1,1-Dichloroethene	ug/kg	<18.2	1400	1230	87	41-133	
1,2,4-Trichlorobenzene	ug/kg	<22.0	1400	1510	107	52-142	
1,2,4-Trimethylbenzene	ug/kg	<15.7	1400	1570	112	56-142	
1,2-Dibromoethane (EDB)	ug/kg	<26.9	1400	1560	111	57-136	
1,2-Dichlorobenzene	ug/kg	<13.8	1400	1560	111	59-136	
1,2-Dichloroethane	ug/kg	<22.6	1400	1260	90	52-133	
1,3,5-Trimethylbenzene	ug/kg	<16.4	1400	1610	115	54-143	
1,3-Dichlorobenzene	ug/kg	<13.8	1400	1570	112	60-137	
1,4-Dichlorobenzene	ug/kg	<20.7	1400	1620	116	51-132	
2-Butanone (MEK)	ug/kg	<94.4	7010	6980	100	46-125	
2-Hexanone	ug/kg	<84.2	7010	7260	104	52-128	
4-Methyl-2-pentanone (MIBK)	ug/kg	<47.3	7010	7530	107	47-146	
Acetone	ug/kg	<469	7010	8540	122	45-148	
Benzene	ug/kg	<6.2	1400	1480	106	41-134	
Bromodichloromethane	ug/kg	<20.0	1400	1410	101	55-136	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

MATRIX SPIKE SAMPLE: 2496603		10376141001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/kg	<61.6	1400	1320	94	51-139	
Bromomethane	ug/kg	<72.5	1400	1220	87	35-148	
Carbon tetrachloride	ug/kg	<22.4	1400	1250	90	50-140	
Chlorobenzene	ug/kg	<12.4	1400	1560	111	59-133	
Chloroethane	ug/kg	<113	1400	883	63	30-150	
Chloroform	ug/kg	<34.7	1400	1400	100	58-128	
Chloromethane	ug/kg	<34.6	1400	843	60	38-125	
cis-1,2-Dichloroethene	ug/kg	<26.6	1400	1440	103	59-125	
cis-1,3-Dichloropropene	ug/kg	<32.6	1400	1450	104	57-133	
Dibromochloromethane	ug/kg	<61.3	1400	1400	100	54-141	
Dichlorodifluoromethane	ug/kg	<21.9	1400	400	29	30-125	M1
Ethylbenzene	ug/kg	<22.7	1400	1580	113	56-141	
Hexachloro-1,3-butadiene	ug/kg	<67.2	1400	1440	103	45-150	
m&p-Xylene	ug/kg	<35.9	2800	3180	113	58-139	
Methyl-tert-butyl ether	ug/kg	<13.4	1400	1430	102	53-133	
Methylene Chloride	ug/kg	<132	1400	1350	95	42-135	
Naphthalene	ug/kg	<17.3	1400	1540	110	41-150	
o-Xylene	ug/kg	<21.3	1400	1560	111	53-132	
Styrene	ug/kg	<18.6	1400	1590	114	53-137	
Tetrachloroethene	ug/kg	<27.3	1400	1450	104	53-138	
Tetrahydrofuran	ug/kg	<355	14000	14800	106	50-145	
Toluene	ug/kg	<22.7	1400	1620	115	55-134	
trans-1,2-Dichloroethene	ug/kg	<34.5	1400	1270	91	44-135	
trans-1,3-Dichloropropene	ug/kg	<24.3	1400	1530	109	59-139	
Trichloroethene	ug/kg	<20.4	1400	1430	102	52-143	
Trichlorofluoromethane	ug/kg	<71.8	1400	702	50	30-150	
Vinyl acetate	ug/kg	<75.6	1400	1390	99	30-150	
Vinyl chloride	ug/kg	<9.2	1400	962	69	36-127	
1,2-Dichloroethane-d4 (S)	%				89	75-129	
4-Bromofluorobenzene (S)	%				103	75-125	
Toluene-d8 (S)	%				99	75-125	

SAMPLE DUPLICATE: 2496604

Parameter	Units	10376141002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1-Trichloroethane	ug/kg	<32.7	<30.9		30	
1,1,2,2-Tetrachloroethane	ug/kg	<17.4	<16.4		30	
1,1,2-Trichloroethane	ug/kg	<16.9	<16.0		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	<56.3	<53.2		30	
1,1-Dichloroethane	ug/kg	<30.3	<28.7		30	
1,1-Dichloroethene	ug/kg	<19.9	<18.8		30	
1,2,4-Trichlorobenzene	ug/kg	<24.1	<22.8		30	
1,2,4-Trimethylbenzene	ug/kg	<17.2	<16.3		30	
1,2-Dibromoethane (EDB)	ug/kg	<29.4	<27.8		30	
1,2-Dichlorobenzene	ug/kg	<15.1	<14.3		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

SAMPLE DUPLICATE: 2496604

Parameter	Units	10376141002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/kg	<24.7	<23.3		30	
1,3,5-Trimethylbenzene	ug/kg	<18.0	<17.0		30	
1,3-Dichlorobenzene	ug/kg	<15.1	<14.3		30	
1,4-Dichlorobenzene	ug/kg	<22.7	<21.4		30	
2-Butanone (MEK)	ug/kg	<103	<97.5		30	
2-Hexanone	ug/kg	<92.1	<87.0		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	<51.8	<48.9		30	
Acetone	ug/kg	<513	<485		30	
Benzene	ug/kg	<6.8	<6.4		30	
Bromodichloromethane	ug/kg	<21.9	<20.7		30	
Bromoform	ug/kg	<67.4	<63.7		30	
Bromomethane	ug/kg	<79.3	<74.9		30	
Carbon tetrachloride	ug/kg	<24.6	<23.2		30	
Chlorobenzene	ug/kg	<13.6	<12.9		30	
Chloroethane	ug/kg	<124	<117		30	
Chloroform	ug/kg	<38.0	<35.9		30	
Chloromethane	ug/kg	<37.9	<35.8		30	
cis-1,2-Dichloroethene	ug/kg	<29.1	<27.5		30	
cis-1,3-Dichloropropene	ug/kg	<35.7	<33.7		30	
Dibromochloromethane	ug/kg	<67.1	<63.4		30	
Dichlorodifluoromethane	ug/kg	<23.9	<22.6		30	
Ethylbenzene	ug/kg	<24.9	<23.5		30	
Hexachloro-1,3-butadiene	ug/kg	<73.5	<69.4		30	
m&p-Xylene	ug/kg	<39.3	<37.1		30	
Methyl-tert-butyl ether	ug/kg	<14.6	<13.8		30	
Methylene Chloride	ug/kg	<145	<137		30	
Naphthalene	ug/kg	<18.9	<17.9		30	
o-Xylene	ug/kg	<23.3	<22.0		30	
Styrene	ug/kg	<20.3	<19.2		30	
Tetrachloroethene	ug/kg	<29.9	<28.2		30	
Tetrahydrofuran	ug/kg	<388	<366		30	
Toluene	ug/kg	<24.9	<23.5		30	
trans-1,2-Dichloroethene	ug/kg	<37.7	<35.6		30	
trans-1,3-Dichloropropene	ug/kg	<26.6	<25.1		30	
Trichloroethene	ug/kg	<22.4	<21.1		30	
Trichlorofluoromethane	ug/kg	<78.5	<74.2		30	
Vinyl acetate	ug/kg	<82.7	<78.2		30	
Vinyl chloride	ug/kg	<10.0	<9.5		30	
1,2-Dichloroethane-d4 (S)	%	87	88	5		
4-Bromofluorobenzene (S)	%	97	100	3		
Toluene-d8 (S)	%	99	96	9		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

QC Batch: 456312 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10376141004, 10376141006, 10376141007, 10376141008, 10376141009, 10376141010, 10376141011, 10376141012, 10376141013, 10376141014, 10376141015, 10376141016, 10376141017

METHOD BLANK: 2498665 Matrix: Solid
Associated Lab Samples: 10376141004, 10376141006, 10376141007, 10376141008, 10376141009, 10376141010, 10376141011, 10376141012, 10376141013, 10376141014, 10376141015, 10376141016, 10376141017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	01/19/17 13:48	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	01/19/17 13:48	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	01/19/17 13:48	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	01/19/17 13:48	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	01/19/17 13:48	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	01/19/17 13:48	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	01/19/17 13:48	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	01/19/17 13:48	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	01/19/17 13:48	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/19/17 13:48	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	01/19/17 13:48	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	01/19/17 13:48	
1,3-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/19/17 13:48	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	01/19/17 13:48	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	01/19/17 13:48	
2-Hexanone	ug/kg	<58.9	250	58.9	01/19/17 13:48	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	01/19/17 13:48	
Acetone	ug/kg	<328	1000	328	01/19/17 13:48	
Benzene	ug/kg	<4.3	20.0	4.3	01/19/17 13:48	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	01/19/17 13:48	
Bromoform	ug/kg	<43.1	200	43.1	01/19/17 13:48	
Bromomethane	ug/kg	<50.7	500	50.7	01/19/17 13:48	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	01/19/17 13:48	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	01/19/17 13:48	
Chloroethane	ug/kg	<79.0	500	79.0	01/19/17 13:48	
Chloroform	ug/kg	<24.3	50.0	24.3	01/19/17 13:48	
Chloromethane	ug/kg	<24.2	200	24.2	01/19/17 13:48	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	01/19/17 13:48	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	01/19/17 13:48	
Dibromochloromethane	ug/kg	<42.9	200	42.9	01/19/17 13:48	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	01/19/17 13:48	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	01/19/17 13:48	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	01/19/17 13:48	
m&p-Xylene	ug/kg	<25.1	100	25.1	01/19/17 13:48	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	01/19/17 13:48	
Methylene Chloride	ug/kg	<92.6	200	92.6	01/19/17 13:48	
Naphthalene	ug/kg	13.0J	200	12.1	01/19/17 13:48	
o-Xylene	ug/kg	<14.9	50.0	14.9	01/19/17 13:48	
Styrene	ug/kg	<13.0	50.0	13.0	01/19/17 13:48	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	01/19/17 13:48	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

METHOD BLANK: 2498665

Matrix: Solid

Associated Lab Samples: 10376141004, 10376141006, 10376141007, 10376141008, 10376141009, 10376141010, 10376141011, 10376141012, 10376141013, 10376141014, 10376141015, 10376141016, 10376141017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Tetrahydrofuran	ug/kg	<248	2000	248	01/19/17 13:48	
Toluene	ug/kg	<15.9	50.0	15.9	01/19/17 13:48	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	01/19/17 13:48	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	01/19/17 13:48	
Trichloroethene	ug/kg	<14.3	50.0	14.3	01/19/17 13:48	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	01/19/17 13:48	
Vinyl acetate	ug/kg	<52.9	500	52.9	01/19/17 13:48	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	01/19/17 13:48	
1,2-Dichloroethane-d4 (S)	%	87	75-129		01/19/17 13:48	
4-Bromofluorobenzene (S)	%	104	75-125		01/19/17 13:48	
Toluene-d8 (S)	%	97	75-125		01/19/17 13:48	

LABORATORY CONTROL SAMPLE: 2498666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	890	89	64-132	
1,1,2,2-Tetrachloroethane	ug/kg	1000	932	93	50-138	
1,1,2-Trichloroethane	ug/kg	1000	913	91	69-126	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	905	90	53-144	
1,1-Dichloroethane	ug/kg	1000	965	96	61-134	
1,1-Dichloroethene	ug/kg	1000	964	96	57-135	
1,2,4-Trichlorobenzene	ug/kg	1000	791	79	38-138	
1,2,4-Trimethylbenzene	ug/kg	1000	893	89	70-127	
1,2-Dibromoethane (EDB)	ug/kg	1000	965	96	69-130	
1,2-Dichlorobenzene	ug/kg	1000	857	86	72-125	
1,2-Dichloroethane	ug/kg	1000	792	79	62-125	
1,3,5-Trimethylbenzene	ug/kg	1000	931	93	71-129	
1,3-Dichlorobenzene	ug/kg	1000	856	86	72-126	
1,4-Dichlorobenzene	ug/kg	1000	893	89	70-126	
2-Butanone (MEK)	ug/kg	5000	5550	111	38-149	
2-Hexanone	ug/kg	5000	5310	106	47-139	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5260	105	52-145	
Acetone	ug/kg	5000	5580	112	65-142	
Benzene	ug/kg	1000	996	100	64-125	
Bromodichloromethane	ug/kg	1000	781	78	67-125	
Bromoform	ug/kg	1000	750	75	56-127	
Bromomethane	ug/kg	1000	926	93	34-137	
Carbon tetrachloride	ug/kg	1000	792	79	58-138	
Chlorobenzene	ug/kg	1000	939	94	72-125	
Chloroethane	ug/kg	1000	730	73	39-148	
Chloroform	ug/kg	1000	902	90	67-125	
Chloromethane	ug/kg	1000	840	84	54-125	
cis-1,2-Dichloroethene	ug/kg	1000	965	96	67-125	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

LABORATORY CONTROL SAMPLE: 2498666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,3-Dichloropropene	ug/kg	1000	890	89	62-127	
Dibromochloromethane	ug/kg	1000	759	76	67-125	
Dichlorodifluoromethane	ug/kg	1000	554	55	34-139	
Ethylbenzene	ug/kg	1000	953	95	70-129	
Hexachloro-1,3-butadiene	ug/kg	1000	706	71	48-126	
m&p-Xylene	ug/kg	2000	1950	97	73-131	
Methyl-tert-butyl ether	ug/kg	1000	943	94	61-125	
Methylene Chloride	ug/kg	1000	940	94	60-126	
Naphthalene	ug/kg	1000	858	86	35-147	
o-Xylene	ug/kg	1000	910	91	74-127	
Styrene	ug/kg	1000	975	97	73-125	
Tetrachloroethene	ug/kg	1000	925	92	66-135	
Tetrahydrofuran	ug/kg	10000	9490	95	66-145	
Toluene	ug/kg	1000	983	98	69-125	
trans-1,2-Dichloroethene	ug/kg	1000	921	92	55-135	
trans-1,3-Dichloropropene	ug/kg	1000	910	91	67-125	
Trichloroethene	ug/kg	1000	917	92	62-141	
Trichlorofluoromethane	ug/kg	1000	621	62	38-150	
Vinyl acetate	ug/kg	1000	917	92	52-125	
Vinyl chloride	ug/kg	1000	993	99	57-131	
1,2-Dichloroethane-d4 (S)	%			89	75-129	
4-Bromofluorobenzene (S)	%			106	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2498667 2498668

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10376141006 Result	Spike Conc.	Spike Conc.	Conc.								
1,1,1-Trichloroethane	ug/kg	<26.4	1250	1210	1280	1240	103	102	51-137	4	30		
1,1,2,2-Tetrachloroethane	ug/kg	<14.0	1250	1210	1490	1430	120	118	40-149	4	30		
1,1,2-Trichloroethane	ug/kg	<13.6	1250	1210	1420	1410	114	116	54-144	1	30		
1,1,2-Trichlorotrifluoroethane	ug/kg	<45.4	1250	1210	1200	1200	96	100	41-150	1	30		
1,1-Dichloroethane	ug/kg	<24.5	1250	1210	1340	1290	108	107	53-131	4	30		
1,1-Dichloroethene	ug/kg	<16.0	1250	1210	1300	1290	104	107	41-133	0	30		
1,2,4-Trichlorobenzene	ug/kg	<19.4	1250	1210	1280	1290	103	106	52-142	1	30		
1,2,4-Trimethylbenzene	ug/kg	<13.9	1250	1210	1420	1380	114	114	56-142	3	30		
1,2-Dibromoethane (EDB)	ug/kg	<23.7	1250	1210	1430	1410	115	116	57-136	1	30		
1,2-Dichlorobenzene	ug/kg	<12.2	1250	1210	1350	1300	108	108	59-136	3	30		
1,2-Dichloroethane	ug/kg	<19.9	1250	1210	1140	1100	91	91	52-133	3	30		
1,3,5-Trimethylbenzene	ug/kg	<14.5	1250	1210	1430	1410	115	117	54-143	2	30		
1,3-Dichlorobenzene	ug/kg	<12.2	1250	1210	1370	1370	110	113	60-137	0	30		
1,4-Dichlorobenzene	ug/kg	<18.3	1250	1210	1410	1380	113	114	51-132	2	30		
2-Butanone (MEK)	ug/kg	<83.3	6220	6050	7500	6920	121	114	46-125	8	30		
2-Hexanone	ug/kg	<74.3	6220	6050	7940	7510	128	124	52-128	6	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2498667			2498668								
Parameter	Units	10376141006 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
4-Methyl-2-pentanone (MIBK)	ug/kg	<41.8	6220	6050	7730	7470	124	124	47-146	3	30
Acetone	ug/kg	<414	6220	6050	8170	8050	131	133	45-148	1	30
Benzene	ug/kg	<5.5	1250	1210	1420	1380	114	114	41-134	3	30
Bromodichloromethane	ug/kg	<17.7	1250	1210	1240	1220	100	101	55-136	2	30
Bromoform	ug/kg	<54.4	1250	1210	1250	1240	100	103	51-139	0	30
Bromomethane	ug/kg	<64.0	1250	1210	1060	908	85	75	35-148	15	30
Carbon tetrachloride	ug/kg	<19.8	1250	1210	1200	1180	97	97	50-140	2	30
Chlorobenzene	ug/kg	<11.0	1250	1210	1390	1360	112	113	59-133	2	30
Chloroethane	ug/kg	<99.7	1250	1210	847	875	68	72	30-150	3	30
Chloroform	ug/kg	<30.7	1250	1210	1310	1270	105	105	58-128	3	30
Chloromethane	ug/kg	<30.5	1250	1210	976	969	78	80	38-125	1	30
cis-1,2-Dichloroethene	ug/kg	<23.5	1250	1210	1400	1350	113	112	59-125	3	30
cis-1,3-Dichloropropene	ug/kg	<28.8	1250	1210	1330	1300	107	108	57-133	2	30
Dibromochloromethane	ug/kg	<54.1	1250	1210	1260	1240	101	103	54-141	1	30
Dichlorodifluoromethane	ug/kg	<19.3	1250	1210	459	513	37	42	30-125	11	30
Ethylbenzene	ug/kg	<20.1	1250	1210	1430	1400	115	116	56-141	2	30
Hexachloro-1,3-butadiene	ug/kg	<59.3	1250	1210	1210	1230	97	102	45-150	2	30
m&p-Xylene	ug/kg	<31.7	2490	2420	2910	2910	117	121	58-139	0	30
Methyl-tert-butyl ether	ug/kg	<11.8	1250	1210	1400	1330	112	110	53-133	5	30
Methylene Chloride	ug/kg	<117	1250	1210	1310	1300	103	104	42-135	1	30
Naphthalene	ug/kg	<15.3	1250	1210	1420	1430	115	118	41-150	0	30
o-Xylene	ug/kg	<18.8	1250	1210	1400	1370	113	113	53-132	2	30
Styrene	ug/kg	<16.4	1250	1210	1440	1460	116	120	53-137	1	30
Tetrachloroethene	ug/kg	<24.1	1250	1210	1340	1370	108	113	53-138	2	30
Tetrahydrofuran	ug/kg	<313	12500	12100	14000	14100	112	117	50-145	1	30
Toluene	ug/kg	<20.1	1250	1210	1440	1440	115	117	55-134	1	30
trans-1,2-Dichloroethene	ug/kg	<30.4	1250	1210	1290	1230	103	102	44-135	4	30
trans-1,3-Dichloropropene	ug/kg	<21.5	1250	1210	1400	1360	113	113	59-139	3	30
Trichloroethene	ug/kg	<18.0	1250	1210	1290	1290	104	107	52-143	0	30
Trichlorofluoromethane	ug/kg	<63.3	1250	1210	757	682	61	56	30-150	10	30
Vinyl acetate	ug/kg	<66.8	1250	1210	1470	1410	118	117	30-150	4	30
Vinyl chloride	ug/kg	<8.1	1250	1210	1140	1140	92	94	36-127	0	30
1,2-Dichloroethane-d4 (S)	%.						90	89	75-129		
4-Bromofluorobenzene (S)	%.						106	104	75-125		
Toluene-d8 (S)	%.						97	99	75-125		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

QC Batch: 456418 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10376141018, 10376141019, 10376141020, 10376141021, 10376141022

METHOD BLANK: 2499115 Matrix: Solid
Associated Lab Samples: 10376141018, 10376141019, 10376141020, 10376141021, 10376141022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	01/20/17 13:14	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	01/20/17 13:14	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	01/20/17 13:14	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	01/20/17 13:14	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	01/20/17 13:14	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	01/20/17 13:14	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	01/20/17 13:14	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	01/20/17 13:14	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	01/20/17 13:14	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	01/20/17 13:14	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	01/20/17 13:14	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	01/20/17 13:14	
1,3-Dichlorobenzene	ug/kg	<14.7	50.0	14.7	01/20/17 13:14	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	01/20/17 13:14	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	01/20/17 13:14	
2-Hexanone	ug/kg	<58.9	250	58.9	01/20/17 13:14	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	01/20/17 13:14	
Acetone	ug/kg	<328	1000	328	01/20/17 13:14	
Benzene	ug/kg	<4.3	20.0	4.3	01/20/17 13:14	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	01/20/17 13:14	
Bromoform	ug/kg	<43.1	200	43.1	01/20/17 13:14	
Bromomethane	ug/kg	<50.7	500	50.7	01/20/17 13:14	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	01/20/17 13:14	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	01/20/17 13:14	
Chloroethane	ug/kg	<79.0	500	79.0	01/20/17 13:14	
Chloroform	ug/kg	<24.3	50.0	24.3	01/20/17 13:14	
Chloromethane	ug/kg	<24.2	200	24.2	01/20/17 13:14	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	01/20/17 13:14	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	01/20/17 13:14	
Dibromochloromethane	ug/kg	<42.9	200	42.9	01/20/17 13:14	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	01/20/17 13:14	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	01/20/17 13:14	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	01/20/17 13:14	
m&p-Xylene	ug/kg	<25.1	100	25.1	01/20/17 13:14	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	01/20/17 13:14	
Methylene Chloride	ug/kg	<92.6	200	92.6	01/20/17 13:14	
Naphthalene	ug/kg	<12.1	200	12.1	01/20/17 13:14	
o-Xylene	ug/kg	<14.9	50.0	14.9	01/20/17 13:14	
Styrene	ug/kg	<13.0	50.0	13.0	01/20/17 13:14	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	01/20/17 13:14	
Tetrahydrofuran	ug/kg	<248	2000	248	01/20/17 13:14	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

METHOD BLANK: 2499115

Matrix: Solid

Associated Lab Samples: 10376141018, 10376141019, 10376141020, 10376141021, 10376141022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<15.9	50.0	15.9	01/20/17 13:14	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	01/20/17 13:14	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	01/20/17 13:14	
Trichloroethene	ug/kg	<14.3	50.0	14.3	01/20/17 13:14	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	01/20/17 13:14	
Vinyl acetate	ug/kg	<52.9	500	52.9	01/20/17 13:14	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	01/20/17 13:14	
1,2-Dichloroethane-d4 (S)	%	93	75-129		01/20/17 13:14	
4-Bromofluorobenzene (S)	%	99	75-125		01/20/17 13:14	
Toluene-d8 (S)	%	100	75-125		01/20/17 13:14	

LABORATORY CONTROL SAMPLE & LCSD: 2499116

2499119

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	916	757	92	76	64-132	19	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	977	828	98	83	50-138	16	20	
1,1,2-Trichloroethane	ug/kg	1000	977	808	98	81	69-126	19	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	838	718	84	72	53-144	15	20	
1,1-Dichloroethane	ug/kg	1000	881	740	88	74	61-134	17	20	
1,1-Dichloroethene	ug/kg	1000	838	729	84	73	57-135	14	20	
1,2,4-Trichlorobenzene	ug/kg	1000	907	740	91	74	38-138	20	20	
1,2,4-Trimethylbenzene	ug/kg	1000	944	765	94	77	70-127	21	20	R1
1,2-Dibromoethane (EDB)	ug/kg	1000	990	830	99	83	69-130	18	20	
1,2-Dichlorobenzene	ug/kg	1000	918	753	92	75	72-125	20	20	
1,2-Dichloroethane	ug/kg	1000	888	740	89	74	62-125	18	20	
1,3,5-Trimethylbenzene	ug/kg	1000	947	779	95	78	71-129	19	20	
1,3-Dichlorobenzene	ug/kg	1000	891	744	89	74	72-126	18	20	
1,4-Dichlorobenzene	ug/kg	1000	901	748	90	75	70-126	19	20	
2-Butanone (MEK)	ug/kg	5000	5080	4080	102	82	38-149	22	20	R1
2-Hexanone	ug/kg	5000	5520	4610	110	92	47-139	18	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5530	4610	111	92	52-145	18	20	
Acetone	ug/kg	5000	4310	3910	86	78	65-142	10	20	
Benzene	ug/kg	1000	898	734	90	73	64-125	20	20	
Bromodichloromethane	ug/kg	1000	955	789	95	79	67-125	19	20	
Bromoform	ug/kg	1000	1060	866	106	87	56-127	20	20	
Bromomethane	ug/kg	1000	707	735	71	73	34-137	4	20	
Carbon tetrachloride	ug/kg	1000	1040	852	104	85	58-138	20	20	
Chlorobenzene	ug/kg	1000	886	750	89	75	72-125	17	20	
Chloroethane	ug/kg	1000	835	864	84	86	39-148	3	20	
Chloroform	ug/kg	1000	862	723	86	72	67-125	18	20	
Chloromethane	ug/kg	1000	749	808	75	81	54-125	8	20	
cis-1,2-Dichloroethene	ug/kg	1000	889	719	89	72	67-125	21	20	R1
cis-1,3-Dichloropropene	ug/kg	1000	964	778	96	78	62-127	21	20	R1
Dibromochloromethane	ug/kg	1000	1010	834	101	83	67-125	19	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

LABORATORY CONTROL SAMPLE & LCSD: 2499116		2499119								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dichlorodifluoromethane	ug/kg	1000	475	652	48	65	34-139	31	20	R1
Ethylbenzene	ug/kg	1000	923	783	92	78	70-129	16	20	
Hexachloro-1,3-butadiene	ug/kg	1000	860	702	86	70	48-126	20	20	
m&p-Xylene	ug/kg	2000	1860	1560	93	78	73-131	17	20	
Methyl-tert-butyl ether	ug/kg	1000	917	756	92	76	61-125	19	20	
Methylene Chloride	ug/kg	1000	808	677	81	68	60-126	18	20	
Naphthalene	ug/kg	1000	1000	803	100	80	35-147	22	20	R1
o-Xylene	ug/kg	1000	902	773	90	77	74-127	15	20	
Styrene	ug/kg	1000	954	806	95	81	73-125	17	20	
Tetrachloroethene	ug/kg	1000	917	795	92	79	66-135	14	20	
Tetrahydrofuran	ug/kg	10000	8790	7680	88	77	66-145	13	20	
Toluene	ug/kg	1000	920	792	92	79	69-125	15	20	
trans-1,2-Dichloroethene	ug/kg	1000	872	734	87	73	55-135	17	20	
trans-1,3-Dichloropropene	ug/kg	1000	1050	888	105	89	67-125	17	20	
Trichloroethene	ug/kg	1000	924	776	92	78	62-141	17	20	
Trichlorofluoromethane	ug/kg	1000	822	868	82	87	38-150	5	20	
Vinyl acetate	ug/kg	1000	907	804	91	80	52-125	12	20	
Vinyl chloride	ug/kg	1000	753	820	75	82	57-131	9	20	
1,2-Dichloroethane-d4 (S)	%				93	92	75-129			
4-Bromofluorobenzene (S)	%				99	99	75-125			
Toluene-d8 (S)	%				100	100	75-125			

MATRIX SPIKE SAMPLE: 2499117		10376141018					
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	<35.1	1500	1250	83	51-137	
1,1,2,2-Tetrachloroethane	ug/kg	<18.6	1500	1530	102	40-149	
1,1,2-Trichloroethane	ug/kg	<18.1	1500	1500	100	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	<60.4	1500	729	48	41-150	
1,1-Dichloroethane	ug/kg	<32.6	1500	1190	79	53-131	
1,1-Dichloroethene	ug/kg	<21.3	1500	958	64	41-133	
1,2,4-Trichlorobenzene	ug/kg	<25.9	1500	1400	93	52-142	
1,2,4-Trimethylbenzene	ug/kg	<18.5	1500	1440	96	56-142	
1,2-Dibromoethane (EDB)	ug/kg	<31.6	1500	1480	98	57-136	
1,2-Dichlorobenzene	ug/kg	<16.2	1500	1400	93	59-136	
1,2-Dichloroethane	ug/kg	<26.5	1500	1250	83	52-133	
1,3,5-Trimethylbenzene	ug/kg	<19.3	1500	1450	97	54-143	
1,3-Dichlorobenzene	ug/kg	<24.7	1500	1360	90	60-137	
1,4-Dichlorobenzene	ug/kg	<24.3	1500	1350	90	51-132	
2-Butanone (MEK)	ug/kg	<111	7530	6760	90	46-125	
2-Hexanone	ug/kg	<98.9	7530	8370	111	52-128	
4-Methyl-2-pentanone (MIBK)	ug/kg	<55.6	7530	8370	111	47-146	
Acetone	ug/kg	<551	7530	7030	93	45-148	
Benzene	ug/kg	<7.3	1500	1240	82	41-134	
Bromodichloromethane	ug/kg	<23.5	1500	1450	96	55-136	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

MATRIX SPIKE SAMPLE: 2499117		10376141018	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/kg	<72.4	1500	1560	104	51-139	
Bromomethane	ug/kg	<85.1	1500	967	64	35-148	
Carbon tetrachloride	ug/kg	<26.4	1500	1400	93	50-140	
Chlorobenzene	ug/kg	<14.6	1500	1370	91	59-133	
Chloroethane	ug/kg	<133	1500	1050	70	30-150	
Chloroform	ug/kg	<40.8	1500	1240	83	58-128	
Chloromethane	ug/kg	<40.6	1500	856	57	38-125	
cis-1,2-Dichloroethene	ug/kg	<31.2	1500	1230	82	59-125	
cis-1,3-Dichloropropene	ug/kg	<38.3	1500	1440	95	57-133	
Dibromochloromethane	ug/kg	<72.0	1500	1510	100	54-141	
Dichlorodifluoromethane	ug/kg	<25.7	1500	312	21	30-125	M1
Ethylbenzene	ug/kg	<26.7	1500	1410	94	56-141	
Hexachloro-1,3-butadiene	ug/kg	<78.9	1500	1410	93	45-150	
m&p-Xylene	ug/kg	<42.1	3000	2840	95	58-139	
Methyl-tert-butyl ether	ug/kg	<15.7	1500	1340	89	53-133	
Methylene Chloride	ug/kg	<155	1500	1100	71	42-135	
Naphthalene	ug/kg	<20.3	1500	1520	101	41-150	
o-Xylene	ug/kg	<25.0	1500	1390	92	53-132	
Styrene	ug/kg	<21.8	1500	1470	98	53-137	
Tetrachloroethene	ug/kg	<32.1	1500	1360	91	53-138	
Tetrahydrofuran	ug/kg	<416	15000	14600	97	50-145	
Toluene	ug/kg	<26.7	1500	1380	90	55-134	
trans-1,2-Dichloroethene	ug/kg	<40.5	1500	1090	73	44-135	
trans-1,3-Dichloropropene	ug/kg	<28.5	1500	1610	107	59-139	
Trichloroethene	ug/kg	<24.0	1500	1330	89	52-143	
Trichlorofluoromethane	ug/kg	<84.3	1500	845	56	30-150	
Vinyl acetate	ug/kg	<88.8	1500	1400	93	30-150	
Vinyl chloride	ug/kg	<10.8	1500	773	51	36-127	
1,2-Dichloroethane-d4 (S)	%				92	75-129	
4-Bromofluorobenzene (S)	%				100	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2499118

Parameter	Units	10376141019	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1-Trichloroethane	ug/kg	<32.5	<32.2		30	
1,1,2,2-Tetrachloroethane	ug/kg	<17.3	<17.1		30	
1,1,2-Trichloroethane	ug/kg	<16.8	<16.6		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	<56.0	<55.4		30	
1,1-Dichloroethane	ug/kg	<30.2	<29.9		30	
1,1-Dichloroethene	ug/kg	<19.8	<19.6		30	
1,2,4-Trichlorobenzene	ug/kg	<24.0	<23.7		30	
1,2,4-Trimethylbenzene	ug/kg	<17.1	<16.9		30	
1,2-Dibromoethane (EDB)	ug/kg	<29.2	<29.0		30	
1,2-Dichlorobenzene	ug/kg	<15.0	<14.9		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

SAMPLE DUPLICATE: 2499118

Parameter	Units	10376141019 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/kg	<24.6	<24.3		30	
1,3,5-Trimethylbenzene	ug/kg	<17.9	<17.7		30	
1,3-Dichlorobenzene	ug/kg	<22.9	<22.6		30	
1,4-Dichlorobenzene	ug/kg	<22.6	<22.3		30	
2-Butanone (MEK)	ug/kg	<103	<102		30	
2-Hexanone	ug/kg	<91.6	<90.7		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	<51.5	<51.0		30	
Acetone	ug/kg	<510	<505		30	
Benzene	ug/kg	<6.7	<6.7		30	
Bromodichloromethane	ug/kg	<21.8	<21.6		30	
Bromoform	ug/kg	<67.0	<66.4		30	
Bromomethane	ug/kg	<78.9	<78.1		30	
Carbon tetrachloride	ug/kg	<24.4	<24.2		30	
Chlorobenzene	ug/kg	<13.5	<13.4		30	
Chloroethane	ug/kg	<123	<122		30	
Chloroform	ug/kg	<37.8	<37.4		30	
Chloromethane	ug/kg	<37.6	<37.3		30	
cis-1,2-Dichloroethene	ug/kg	<28.9	<28.6		30	
cis-1,3-Dichloropropene	ug/kg	<35.5	<35.1		30	
Dibromochloromethane	ug/kg	<66.7	<66.1		30	
Dichlorodifluoromethane	ug/kg	<23.8	<23.6		30	
Ethylbenzene	ug/kg	<24.7	<24.5		30	
Hexachloro-1,3-butadiene	ug/kg	<73.1	<72.4		30	
m&p-Xylene	ug/kg	<39.0	<38.7		30	
Methyl-tert-butyl ether	ug/kg	<14.6	<14.4		30	
Methylene Chloride	ug/kg	<144	<143		30	
Naphthalene	ug/kg	<18.8	<18.6		30	
o-Xylene	ug/kg	<23.2	<22.9		30	
Styrene	ug/kg	<20.2	<20.0		30	
Tetrachloroethene	ug/kg	<29.7	<29.4		30	
Tetrahydrofuran	ug/kg	<386	<382		30	
Toluene	ug/kg	<24.7	<24.5		30	
trans-1,2-Dichloroethene	ug/kg	<37.5	<37.1		30	
trans-1,3-Dichloropropene	ug/kg	<26.4	<26.2		30	
Trichloroethene	ug/kg	<22.2	<22.0		30	
Trichlorofluoromethane	ug/kg	<78.1	<77.3		30	
Vinyl acetate	ug/kg	<82.3	<81.5		30	
Vinyl chloride	ug/kg	<10	<9.9		30	
1,2-Dichloroethane-d4 (S)	%	92	94	0		
4-Bromofluorobenzene (S)	%	101	102	0		
Toluene-d8 (S)	%	101	100	2		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

QC Batch: 456336 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10376141005, 10376141023

METHOD BLANK: 2498726 Matrix: Water

Associated Lab Samples: 10376141005, 10376141023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	01/19/17 13:09	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	01/19/17 13:09	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	01/19/17 13:09	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	01/19/17 13:09	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	01/19/17 13:09	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	01/19/17 13:09	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	01/19/17 13:09	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	01/19/17 13:09	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	01/19/17 13:09	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	01/19/17 13:09	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	01/19/17 13:09	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	01/19/17 13:09	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	01/19/17 13:09	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	01/19/17 13:09	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	01/19/17 13:09	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	01/19/17 13:09	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	01/19/17 13:09	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	01/19/17 13:09	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	01/19/17 13:09	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	01/19/17 13:09	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	01/19/17 13:09	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	01/19/17 13:09	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	01/19/17 13:09	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	01/19/17 13:09	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	01/19/17 13:09	
2-Hexanone	ug/L	<0.19	5.0	0.19	01/19/17 13:09	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	01/19/17 13:09	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	01/19/17 13:09	
Acetone	ug/L	<0.64	20.0	0.64	01/19/17 13:09	
Acrolein	ug/L	<2.1	10.0	2.1	01/19/17 13:09	
Acrylonitrile	ug/L	<0.49	10.0	0.49	01/19/17 13:09	
Benzene	ug/L	<0.042	0.50	0.042	01/19/17 13:09	
Bromobenzene	ug/L	<0.087	0.50	0.087	01/19/17 13:09	
Bromochloromethane	ug/L	<0.082	1.0	0.082	01/19/17 13:09	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	01/19/17 13:09	
Bromoform	ug/L	<0.11	4.0	0.11	01/19/17 13:09	
Bromomethane	ug/L	<0.20	4.0	0.20	01/19/17 13:09	
Carbon disulfide	ug/L	<0.20	1.0	0.20	01/19/17 13:09	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	01/19/17 13:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

METHOD BLANK: 2498726

Matrix: Water

Associated Lab Samples: 10376141005, 10376141023

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	01/19/17 13:09	
Chloroethane	ug/L	<0.12	1.0	0.12	01/19/17 13:09	
Chloroform	ug/L	<0.21	1.0	0.21	01/19/17 13:09	
Chloromethane	ug/L	<0.080	4.0	0.080	01/19/17 13:09	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	01/19/17 13:09	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	01/19/17 13:09	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	01/19/17 13:09	
Dibromomethane	ug/L	<0.14	1.0	0.14	01/19/17 13:09	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	01/19/17 13:09	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	01/19/17 13:09	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	01/19/17 13:09	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	01/19/17 13:09	
Ethylbenzene	ug/L	<0.075	0.50	0.075	01/19/17 13:09	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	01/19/17 13:09	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
m&p-Xylene	ug/L	<0.11	1.0	0.11	01/19/17 13:09	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	01/19/17 13:09	
Methylene Chloride	ug/L	<0.097	4.0	0.097	01/19/17 13:09	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	01/19/17 13:09	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	01/19/17 13:09	
Naphthalene	ug/L	<0.064	1.0	0.064	01/19/17 13:09	
o-Xylene	ug/L	<0.044	0.50	0.044	01/19/17 13:09	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	01/19/17 13:09	
Styrene	ug/L	<0.056	0.50	0.056	01/19/17 13:09	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	01/19/17 13:09	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	01/19/17 13:09	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	01/19/17 13:09	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	01/19/17 13:09	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	01/19/17 13:09	
Toluene	ug/L	<0.059	0.50	0.059	01/19/17 13:09	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	01/19/17 13:09	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	01/19/17 13:09	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	01/19/17 13:09	
Trichloroethene	ug/L	<0.044	0.40	0.044	01/19/17 13:09	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	01/19/17 13:09	
Vinyl acetate	ug/L	<0.12	10.0	0.12	01/19/17 13:09	
Vinyl chloride	ug/L	<0.098	0.20	0.098	01/19/17 13:09	
Xylene (Total)	ug/L	<0.15	1.5	0.15	01/19/17 13:09	
1,2-Dichloroethane-d4 (S)	%	97	75-125		01/19/17 13:09	
4-Bromofluorobenzene (S)	%	97	75-125		01/19/17 13:09	
Toluene-d8 (S)	%	96	75-125		01/19/17 13:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

LABORATORY CONTROL SAMPLE & LCSD: 2498727

2498879

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.8	19.5	109	97	75-125	11	30	
1,1,1-Trichloroethane	ug/L	20	19.5	18.2	98	91	74-125	7	30	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	19.8	105	99	67-131	6	30	
1,1,2-Trichloroethane	ug/L	20	21.7	19.8	108	99	75-125	9	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	23.1	20.9	116	104	75-125	10	30	
1,1-Dichloroethane	ug/L	20	19.5	18.4	97	92	74-125	6	30	
1,1-Dichloroethene	ug/L	20	19.8	18.0	99	90	74-125	10	30	
1,1-Dichloropropene	ug/L	20	20.6	19.2	103	96	74-125	7	30	
1,2,3-Trichlorobenzene	ug/L	20	21.6	20.2	108	101	63-131	7	30	
1,2,3-Trichloropropane	ug/L	20	21.2	20.3	106	101	73-125	4	30	
1,2,4-Trichlorobenzene	ug/L	20	20.5	19.4	102	97	66-126	6	30	
1,2,4-Trimethylbenzene	ug/L	20	19.6	17.0	98	85	74-129	14	30	
1,2-Dibromo-3-chloropropane	ug/L	50	49.0	46.8	98	94	54-129	5	30	
1,2-Dibromoethane (EDB)	ug/L	20	20.8	19.2	104	96	75-125	8	30	
1,2-Dichlorobenzene	ug/L	20	21.4	19.1	107	96	75-125	11	30	
1,2-Dichloroethane	ug/L	20	19.1	18.5	96	92	75-125	3	30	
1,2-Dichloroethene (Total)	ug/L	40	40.4	38.2	101	95	75-125	6	30	
1,2-Dichloropropane	ug/L	20	21.0	19.2	105	96	75-125	9	30	
1,3,5-Trimethylbenzene	ug/L	20	19.9	17.2	100	86	73-127	15	30	
1,3-Dichlorobenzene	ug/L	20	21.3	18.8	106	94	75-125	13	30	
1,3-Dichloropropane	ug/L	20	20.8	19.6	104	98	69-125	6	30	
1,4-Dichlorobenzene	ug/L	20	21.5	18.8	107	94	75-125	13	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	483	478	121	120	70-130	1	30	
2,2,4-Trimethylpentane	ug/L	20	19.6	18.5	98	93	67-138	6	30	
2,2-Dichloropropane	ug/L	20	18.9	17.8	94	89	69-125	6	30	
2-Butanone (MEK)	ug/L	100	93.1	89.5	93	89	48-145	4	30	
2-Chlorotoluene	ug/L	20	21.1	18.3	106	91	74-125	14	30	
2-Hexanone	ug/L	100	90.2	86.2	90	86	63-135	4	30	
4-Chlorotoluene	ug/L	20	20.4	17.7	102	88	73-125	14	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.7	86.4	91	86	53-138	5	30	
Acetone	ug/L	100	107	107	107	107	70-142	0	30	
Acrolein	ug/L	200	200	201	100	100	44-150	0	30	
Acrylonitrile	ug/L	200	196	197	98	98	68-125	0	30	
Benzene	ug/L	20	19.2	18.0	96	90	65-125	6	30	
Bromobenzene	ug/L	20	22.0	19.8	110	99	75-125	11	30	
Bromochloromethane	ug/L	20	22.9	22.3	114	112	75-125	3	30	
Bromodichloromethane	ug/L	20	22.2	20.7	111	103	73-125	7	30	
Bromoform	ug/L	20	18.5	17.8	93	89	69-125	4	30	
Bromomethane	ug/L	20	14.2	14.8	71	74	40-136	4	30	
Carbon disulfide	ug/L	20	18.2	17.3	91	87	36-150	5	30	
Carbon tetrachloride	ug/L	20	20.5	19.1	102	95	70-125	7	30	
Chlorobenzene	ug/L	20	20.7	18.3	103	92	75-125	12	30	
Chloroethane	ug/L	20	19.1	17.3	95	87	67-141	10	30	
Chloroform	ug/L	20	19.6	18.5	98	93	75-125	5	30	
Chloromethane	ug/L	20	20.7	13.3	103	66	50-150	44	30	R1
cis-1,2-Dichloroethene	ug/L	20	20.1	18.9	101	94	75-125	6	30	
cis-1,3-Dichloropropene	ug/L	20	20.4	19.0	102	95	75-125	7	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376141

LABORATORY CONTROL SAMPLE & LCSD: 2498727		2498879								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	21.2	19.9	106	99	75-125	6	30	
Dibromomethane	ug/L	20	21.8	20.4	109	102	75-129	7	30	
Dichlorodifluoromethane	ug/L	20	17.0	15.7	85	78	59-135	8	30	
Dichlorofluoromethane	ug/L	20	18.8	17.7	94	88	74-130	6	30	
Diisopropyl ether	ug/L	20	18.8	18.2	94	91	71-125	4	30	
Ethyl-tert-butyl ether	ug/L	20	20.4	19.8	102	99	70-130	3	30	
Ethylbenzene	ug/L	20	19.9	17.1	100	85	75-125	15	30	
Hexachloro-1,3-butadiene	ug/L	20	19.9	19.7	100	98	72-126	1	30	
Isopropylbenzene (Cumene)	ug/L	20	19.1	16.1	95	80	71-136	17	30	
m&p-Xylene	ug/L	40	39.6	34.5	99	86	75-125	14	30	
Methyl-tert-butyl ether	ug/L	20	19.1	18.9	95	95	73-127	1	30	
Methylene Chloride	ug/L	20	21.6	20.9	108	104	68-128	3	30	
n-Butylbenzene	ug/L	20	18.7	16.9	94	84	70-126	10	30	
n-Propylbenzene	ug/L	20	19.4	16.5	97	83	67-131	16	30	
Naphthalene	ug/L	20	19.4	17.8	97	89	52-134	9	30	
o-Xylene	ug/L	20	19.5	17.1	98	86	75-125	13	30	
p-Isopropyltoluene	ug/L	20	18.3	16.3	92	82	74-125	12	30	
sec-Butylbenzene	ug/L	20	19.2	16.9	96	84	69-134	13	30	
Styrene	ug/L	20	20.2	17.8	101	89	75-125	13	30	
tert-Amylmethyl ether	ug/L	20	19.5	18.9	97	95	70-130	3	30	
tert-Butyl Alcohol	ug/L	200	212	210	106	105	66-128	1	30	
tert-Butylbenzene	ug/L	20	19.0	16.6	95	83	71-128	14	30	
Tetrachloroethene	ug/L	20	21.5	18.4	107	92	74-125	15	30	
Tetrahydrofuran	ug/L	200	204	201	102	100	64-142	1	30	
Toluene	ug/L	20	20.0	18.0	100	90	75-125	11	30	
trans-1,2-Dichloroethene	ug/L	20	20.3	19.3	101	96	73-125	5	30	
trans-1,3-Dichloropropene	ug/L	20	21.0	19.5	105	98	75-125	7	30	
trans-1,4-Dichloro-2-butene	ug/L	50	49.1	47.2	98	94	54-133	4	30	
Trichloroethene	ug/L	20	22.2	19.7	111	98	75-125	12	30	
Trichlorofluoromethane	ug/L	20	21.0	19.3	105	97	75-126	8	30	
Vinyl acetate	ug/L	20	19.9	19.8	99	99	67-126	0	30	
Vinyl chloride	ug/L	20	16.8	15.8	84	79	72-125	6	30	
Xylene (Total)	ug/L	60	59.1	51.6	99	86	75-125	14	30	
1,2-Dichloroethane-d4 (S)	%				95	99	75-125			
4-Bromofluorobenzene (S)	%				95	96	75-125			
Toluene-d8 (S)	%				97	96	75-125			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2500316		2500317											
Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10376115002 Result	Spike Conc.	Spike Conc.	MS Result								
1,1,1,2-Tetrachloroethane	ug/L	<0.13	40	40	44.5	44.0	111	110	75-127	1	30		
1,1,1-Trichloroethane	ug/L	<0.11	40	40	43.7	41.4	109	103	66-142	5	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.11	40	40	42.7	42.9	107	107	70-131	0	30		
1,1,2-Trichloroethane	ug/L	<0.13	40	40	44.3	44.0	111	110	75-128	1	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Parameter	Units	2500316		2500317		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10376115002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,2-Trichlorotrifluoroethane	ug/L	<0.26	40	40	55.0	50.6	138	127	54-150	8	30		
1,1-Dichloroethane	ug/L	<0.11	40	40	42.9	41.0	107	102	58-147	5	30		
1,1-Dichloroethene	ug/L	<0.14	40	40	43.5	42.2	109	105	49-150	3	30		
1,1-Dichloropropene	ug/L	<0.16	40	40	47.1	44.7	118	112	58-147	5	30		
1,2,3-Trichlorobenzene	ug/L	<0.34	40	40	43.1	40.5	108	101	57-139	6	30		
1,2,3-Trichloropropane	ug/L	<0.38	40	40	43.0	41.8	107	105	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.28	40	40	41.8	39.8	105	99	55-136	5	30		
1,2,4-Trimethylbenzene	ug/L	10.5	40	40	50.4	49.8	100	98	67-138	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<1.2	100	100	101	97.9	101	98	63-136	3	30		
1,2-Dibromoethane (EDB)	ug/L	<0.18	40	40	41.8	41.9	105	105	74-125	0	30		
1,2-Dichlorobenzene	ug/L	<0.16	40	40	42.4	42.6	106	106	75-125	0	30		
1,2-Dichloroethane	ug/L	<0.14	40	40	40.5	39.7	101	99	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.33	80	80	88.0	85.0	110	106	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.13	40	40	43.3	43.8	108	109	63-138	1	30		
1,3,5-Trimethylbenzene	ug/L	52.2	40	40	91.5	89.7	98	94	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.17	40	40	42.5	42.5	106	106	75-125	0	30		
1,3-Dichloropropane	ug/L	<0.12	40	40	43.1	43.7	108	109	65-135	1	30		
1,4-Dichlorobenzene	ug/L	<0.16	40	40	42.4	43.0	106	107	70-126	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	<9.6	800	800	971	1030	121	129	54-145	6	30		
2,2,4-Trimethylpentane	ug/L	<0.17	40	40	44.7	41.7	112	104	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.19	40	40	41.6	39.7	104	99	39-148	5	30		
2-Butanone (MEK)	ug/L	<2.2	200	200	195	175	98	88	50-144	11	30		
2-Chlorotoluene	ug/L	<0.17	40	40	40.7	40.5	102	101	71-135	0	30		
2-Hexanone	ug/L	<0.38	200	200	183	175	92	87	43-150	5	30		
4-Chlorotoluene	ug/L	<0.096	40	40	40.8	40.6	102	102	71-131	0	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<1.6	200	200	186	178	93	89	60-147	4	30		
Acetone	ug/L	<1.3	200	200	239	241	120	121	59-150	1	30		
Acrolein	ug/L	<4.2	400	400	469	441	117	110	30-150	6	30		
Acrylonitrile	ug/L	<0.98	400	400	416	389	104	97	41-148	7	30		
Benzene	ug/L	5.4	40	40	46.8	45.4	103	100	61-138	3	30		
Bromobenzene	ug/L	<0.17	40	40	45.0	46.1	112	115	74-130	2	30		
Bromochloromethane	ug/L	<0.16	40	40	49.0	46.8	122	117	65-137	4	30		
Bromodichloromethane	ug/L	<0.14	40	40	45.6	45.6	114	114	66-136	0	30		
Bromoform	ug/L	<0.22	40	40	38.6	37.5	96	94	71-125	3	30		
Bromomethane	ug/L	<0.40	40	40	36.6	36.3	91	91	30-150	1	30		
Carbon disulfide	ug/L	<0.40	40	40	41.1	38.8	103	97	30-150	6	30		
Carbon tetrachloride	ug/L	<0.16	40	40	46.5	43.9	116	110	68-140	6	30		
Chlorobenzene	ug/L	<0.13	40	40	42.5	42.9	106	107	75-132	1	30		
Chloroethane	ug/L	<0.24	40	40	41.2	37.4	103	93	55-150	10	30		
Chloroform	ug/L	<0.42	40	40	42.3	40.9	106	102	64-139	3	30		
Chloromethane	ug/L	<0.16	40	40	31.1	29.3	78	73	73-150	6	30		
cis-1,2-Dichloroethene	ug/L	<0.24	40	40	43.7	42.1	109	105	62-138	4	30		
cis-1,3-Dichloropropene	ug/L	<0.14	40	40	41.3	41.8	103	104	70-125	1	30		
Dibromochloromethane	ug/L	<0.096	40	40	43.8	43.7	109	109	74-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Parameter	Units	2500316		2500317		MS % Rec	MSD % Rec	% Rec	Limits	RPD	Max RPD	Qual
		10376115002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	<0.28	40	40	44.6	44.1	112	110	66-138	1	30	
Dichlorodifluoromethane	ug/L	<0.15	40	40	40.9	37.1	102	93	53-150	10	30	
Dichlorofluoromethane	ug/L	<0.11	40	40	41.9	38.7	105	97	58-150	8	30	
Diisopropyl ether	ug/L	<0.10	40	40	40.6	39.9	101	100	50-139	2	30	
Ethyl-tert-butyl ether	ug/L	<0.12	40	40	44.0	42.4	110	106	30-140	4	30	
Ethylbenzene	ug/L	0.24J	40	40	41.1	40.3	102	100	66-141	2	30	
Hexachloro-1,3-butadiene	ug/L	<0.26	40	40	46.0	42.1	115	105	63-139	9	30	
Isopropylbenzene (Cumene)	ug/L	<0.13	40	40	38.7	37.8	97	95	65-146	2	30	
m&p-Xylene	ug/L	36.9	80	80	121	118	106	102	72-142	3	30	
Methyl-tert-butyl ether	ug/L	<0.094	40	40	41.2	39.8	103	99	63-134	3	30	
Methylene Chloride	ug/L	<0.19	40	40	47.8	45.1	119	113	49-143	6	30	
n-Butylbenzene	ug/L	2.4	40	40	41.2	39.7	97	93	67-134	4	30	
n-Propylbenzene	ug/L	<0.098	40	40	38.8	37.8	97	95	62-142	3	30	
Naphthalene	ug/L	8.4	40	40	49.0	47.5	101	98	41-150	3	30	
o-Xylene	ug/L	188	40	40	225	218	93	75	66-138	3	30	
p-Isopropyltoluene	ug/L	1.2	40	40	44.0	42.1	107	102	64-137	4	30	
sec-Butylbenzene	ug/L	<0.19	40	40	38.7	37.5	97	94	65-142	3	30	
Styrene	ug/L	<0.11	40	40	42.0	42.3	105	106	61-142	1	30	
tert-Amylmethyl ether	ug/L	<0.15	40	40	41.2	40.5	103	101	65-125	2	30	
tert-Butyl Alcohol	ug/L	<1.8	400	400	431	439	108	110	59-138	2	30	
tert-Butylbenzene	ug/L	<0.10	40	40	38.8	37.8	97	94	69-135	3	30	
Tetrachloroethene	ug/L	<0.26	40	40	44.0	43.3	110	108	62-142	1	30	
Tetrahydrofuran	ug/L	<3.0	400	400	439	451	110	113	55-150	3	30	
Toluene	ug/L	8.3	40	40	50.6	49.6	106	103	66-132	2	30	
trans-1,2-Dichloroethene	ug/L	<0.30	40	40	44.3	42.9	111	107	48-150	3	30	
trans-1,3-Dichloropropene	ug/L	<0.088	40	40	42.5	43.0	106	107	65-130	1	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.90	100	100	99.3	100	99	100	31-150	1	30	
Trichloroethene	ug/L	<0.088	40	40	46.6	46.3	116	116	64-142	0	30	
Trichlorofluoromethane	ug/L	<0.11	40	40	49.3	45.8	123	115	63-150	7	30	
Vinyl acetate	ug/L	<0.24	40	40	41.8	40.4	104	101	30-150	3	30	
Vinyl chloride	ug/L	<0.20	40	40	38.9	35.8	97	90	58-150	8	30	
Xylene (Total)	ug/L	225	120	120	347	336	101	93	70-140	3	30	
1,2-Dichloroethane-d4 (S)	%						97	94	75-125			
4-Bromofluorobenzene (S)	%						96	97	75-125			
Toluene-d8 (S)	%						97	96	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376141


Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10376141001	SB37-SS-65	ASTM D2974	457575		
10376141002	SB37-SS-70	ASTM D2974	457575		
10376141003	SB37-SS-75	ASTM D2974	457575		
10376141004	SB37-SS-80	ASTM D2974	457575		
10376141006	SB35-SS-10	ASTM D2974	457575		
10376141007	SB35-SS-20	ASTM D2974	457575		
10376141008	SB35-SS-25	ASTM D2974	457575		
10376141009	SSFD-4	ASTM D2974	457575		
10376141010	SB37-SS-60	ASTM D2974	457575		
10376141011	SB35-SS-30	ASTM D2974	457614		
10376141012	SB35-SS-35	ASTM D2974	457614		
10376141013	SB35-SS-40	ASTM D2974	457614		
10376141014	SB35-SS-45	ASTM D2974	457614		
10376141015	SB35-SS-50	ASTM D2974	457614		
10376141016	SB35-SS-55	ASTM D2974	457614		
10376141017	SB35-SS-60	ASTM D2974	457614		
10376141018	SB35-SS-65	ASTM D2974	457614		
10376141019	SB35-SS-70	ASTM D2974	457614		
10376141020	SB35-SS-75	ASTM D2974	457815		
10376141021	SB35-SS-80	ASTM D2974	457815		
10376141022	SSFD-5	ASTM D2974	457815		
10376141001	SB37-SS-65	EPA 5035/5030B	455929	EPA 8260B	456321
10376141002	SB37-SS-70	EPA 5035/5030B	455929	EPA 8260B	456321
10376141003	SB37-SS-75	EPA 5035/5030B	455929	EPA 8260B	456321
10376141004	SB37-SS-80	EPA 5035/5030B	456312	EPA 8260B	456549
10376141006	SB35-SS-10	EPA 5035/5030B	456312	EPA 8260B	456549
10376141007	SB35-SS-20	EPA 5035/5030B	456312	EPA 8260B	456549
10376141008	SB35-SS-25	EPA 5035/5030B	456312	EPA 8260B	456549
10376141009	SSFD-4	EPA 5035/5030B	456312	EPA 8260B	456549
10376141010	SB37-SS-60	EPA 5035/5030B	456312	EPA 8260B	456549
10376141011	SB35-SS-30	EPA 5035/5030B	456312	EPA 8260B	456549
10376141012	SB35-SS-35	EPA 5035/5030B	456312	EPA 8260B	456549
10376141013	SB35-SS-40	EPA 5035/5030B	456312	EPA 8260B	456549
10376141014	SB35-SS-45	EPA 5035/5030B	456312	EPA 8260B	456549
10376141015	SB35-SS-50	EPA 5035/5030B	456312	EPA 8260B	456549
10376141016	SB35-SS-55	EPA 5035/5030B	456312	EPA 8260B	456549
10376141017	SB35-SS-60	EPA 5035/5030B	456312	EPA 8260B	456549
10376141018	SB35-SS-65	EPA 5035/5030B	456418	EPA 8260B	456768
10376141019	SB35-SS-70	EPA 5035/5030B	456418	EPA 8260B	456768
10376141020	SB35-SS-75	EPA 5035/5030B	456418	EPA 8260B	456768
10376141021	SB35-SS-80	EPA 5035/5030B	456418	EPA 8260B	456768
10376141022	SSFD-5	EPA 5035/5030B	456418	EPA 8260B	456768
10376141005	SB37-GW-81	EPA 8260B	456336		
10376141023	SB35-GW-69-71	EPA 8260B	456336		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs Client Name: CH2M Hill Project #: **WO#: 10376141**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 702145756723

WO#: 10376141

 10376141

Optional: Proj. Due Date: _____ Proj. Name: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.9 Cooler Temp Corrected (°C): 0.8 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: -0.1 Date and Initials of Person Examining Contents: 1-17-17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	12. <u>time on containers for SB37-SS-10' B 1530</u> <u>time on containers for SSFD-4' B 1500</u>
-Includes Date/Time/ID/Analysis Matrix: <u>SL + WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: <u>N/A</u> , Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>1530</u>	Temp: <u>0.9</u>	Corrected Temp: <u>0.8</u>
Time: <u>1550</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS

Date: 1/17/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 09, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376143

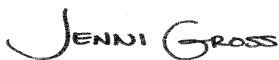
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on March 10th 2017 to update the sample IDs for 10376143-001 and 10376143-002 per client request.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10376143001	SB-43	Water	01/12/17 14:45	01/17/17 10:45
10376143002	SB-43	Water	01/12/17 15:30	01/17/17 10:45
10376143003	Trip Blank	Water	01/12/17 08:00	01/17/17 10:45

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10376143001	SB-43	EPA 8260B	PRD	83	PASI-M
10376143002	SB-43	EPA 8260B	PRD	83	PASI-M
10376143003	Trip Blank	EPA 8260B	PRD	83	PASI-M

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10376143001	SB-43					
EPA 8260B	Acetone	7.6J	ug/L	20.0	01/19/17 19:26	
EPA 8260B	Carbon disulfide	0.26J	ug/L	1.0	01/19/17 19:26	
EPA 8260B	Naphthalene	0.18J	ug/L	1.0	01/19/17 19:26	
10376143002	SB-43					
EPA 8260B	Carbon tetrachloride	1.5	ug/L	1.0	01/19/17 19:48	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 09, 2017

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 456336

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2498879)
- Chloromethane

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Sample: SB-43 **Lab ID: 10376143001** Collected: 01/12/17 14:45 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 19:26	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/19/17 19:26	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 19:26	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 19:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/19/17 19:26	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 19:26	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/19/17 19:26	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/19/17 19:26	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/19/17 19:26	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/19/17 19:26	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/19/17 19:26	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/19/17 19:26	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/19/17 19:26	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/19/17 19:26	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/19/17 19:26	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/19/17 19:26	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/19/17 19:26	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/19/17 19:26	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/19/17 19:26	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/19/17 19:26	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/19/17 19:26	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/19/17 19:26	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/19/17 19:26	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/19/17 19:26	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/19/17 19:26	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/19/17 19:26	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/19/17 19:26	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/19/17 19:26	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/19/17 19:26	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/19/17 19:26	108-10-1	
Acetone	7.6J	ug/L	20.0	0.64	1		01/19/17 19:26	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/19/17 19:26	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/19/17 19:26	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/19/17 19:26	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/19/17 19:26	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/19/17 19:26	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/19/17 19:26	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/19/17 19:26	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/19/17 19:26	74-83-9	
Carbon disulfide	0.26J	ug/L	1.0	0.20	1		01/19/17 19:26	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/19/17 19:26	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/19/17 19:26	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/19/17 19:26	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/19/17 19:26	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/19/17 19:26	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/19/17 19:26	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Sample: SB-43 **Lab ID: 10376143001** Collected: 01/12/17 14:45 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/19/17 19:26	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/19/17 19:26	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/19/17 19:26	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/19/17 19:26	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/19/17 19:26	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/19/17 19:26	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/19/17 19:26	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/19/17 19:26	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/19/17 19:26	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/19/17 19:26	75-09-2	
Naphthalene	0.18J	ug/L	1.0	0.064	1		01/19/17 19:26	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/19/17 19:26	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/19/17 19:26	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/19/17 19:26	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/19/17 19:26	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/19/17 19:26	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/19/17 19:26	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/19/17 19:26	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/19/17 19:26	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/19/17 19:26	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/19/17 19:26	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/19/17 19:26	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/19/17 19:26	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/19/17 19:26	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/19/17 19:26	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/19/17 19:26	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/19/17 19:26	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/19/17 19:26	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/19/17 19:26	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/19/17 19:26	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/19/17 19:26	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/19/17 19:26	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/19/17 19:26	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/19/17 19:26	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		01/19/17 19:26	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		01/19/17 19:26	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		01/19/17 19:26	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Sample: SB-43 **Lab ID: 10376143002** Collected: 01/12/17 15:30 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 19:48	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/19/17 19:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 19:48	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 19:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/19/17 19:48	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 19:48	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/19/17 19:48	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/19/17 19:48	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/19/17 19:48	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/19/17 19:48	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/19/17 19:48	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/19/17 19:48	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/19/17 19:48	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/19/17 19:48	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/19/17 19:48	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/19/17 19:48	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/19/17 19:48	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/19/17 19:48	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/19/17 19:48	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/19/17 19:48	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/19/17 19:48	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/19/17 19:48	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/19/17 19:48	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/19/17 19:48	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/19/17 19:48	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/19/17 19:48	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/19/17 19:48	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/19/17 19:48	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/19/17 19:48	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/19/17 19:48	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/19/17 19:48	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/19/17 19:48	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/19/17 19:48	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/19/17 19:48	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/19/17 19:48	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/19/17 19:48	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/19/17 19:48	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/19/17 19:48	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/19/17 19:48	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/19/17 19:48	75-15-0	
Carbon tetrachloride	1.5	ug/L	1.0	0.079	1		01/19/17 19:48	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/19/17 19:48	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/19/17 19:48	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/19/17 19:48	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/19/17 19:48	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/19/17 19:48	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Sample: SB-43 **Lab ID: 10376143002** Collected: 01/12/17 15:30 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/19/17 19:48	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/19/17 19:48	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/19/17 19:48	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/19/17 19:48	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/19/17 19:48	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/19/17 19:48	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/19/17 19:48	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/19/17 19:48	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/19/17 19:48	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/19/17 19:48	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/19/17 19:48	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/19/17 19:48	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/19/17 19:48	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/19/17 19:48	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/19/17 19:48	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/19/17 19:48	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/19/17 19:48	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/19/17 19:48	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/19/17 19:48	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/19/17 19:48	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/19/17 19:48	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/19/17 19:48	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/19/17 19:48	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/19/17 19:48	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/19/17 19:48	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/19/17 19:48	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/19/17 19:48	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/19/17 19:48	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/19/17 19:48	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/19/17 19:48	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/19/17 19:48	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/19/17 19:48	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/19/17 19:48	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/19/17 19:48	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		01/19/17 19:48	17060-07-0	
Toluene-d8 (S)	94	%	75-125		1		01/19/17 19:48	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		01/19/17 19:48	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Sample: Trip Blank **Lab ID: 10376143003** Collected: 01/12/17 08:00 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 15:22	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		01/19/17 15:22	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 15:22	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		01/19/17 15:22	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		01/19/17 15:22	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		01/19/17 15:22	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		01/19/17 15:22	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		01/19/17 15:22	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		01/19/17 15:22	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		01/19/17 15:22	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		01/19/17 15:22	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		01/19/17 15:22	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		01/19/17 15:22	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		01/19/17 15:22	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		01/19/17 15:22	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		01/19/17 15:22	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		01/19/17 15:22	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		01/19/17 15:22	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		01/19/17 15:22	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		01/19/17 15:22	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		01/19/17 15:22	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		01/19/17 15:22	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		01/19/17 15:22	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		01/19/17 15:22	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		01/19/17 15:22	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		01/19/17 15:22	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		01/19/17 15:22	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		01/19/17 15:22	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		01/19/17 15:22	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		01/19/17 15:22	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		01/19/17 15:22	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		01/19/17 15:22	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		01/19/17 15:22	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		01/19/17 15:22	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		01/19/17 15:22	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		01/19/17 15:22	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		01/19/17 15:22	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		01/19/17 15:22	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		01/19/17 15:22	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		01/19/17 15:22	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		01/19/17 15:22	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		01/19/17 15:22	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		01/19/17 15:22	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		01/19/17 15:22	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		01/19/17 15:22	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		01/19/17 15:22	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Sample: Trip Blank **Lab ID: 10376143003** Collected: 01/12/17 08:00 Received: 01/17/17 10:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		01/19/17 15:22	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		01/19/17 15:22	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		01/19/17 15:22	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		01/19/17 15:22	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		01/19/17 15:22	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		01/19/17 15:22	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		01/19/17 15:22	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		01/19/17 15:22	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		01/19/17 15:22	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		01/19/17 15:22	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		01/19/17 15:22	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		01/19/17 15:22	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		01/19/17 15:22	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		01/19/17 15:22	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		01/19/17 15:22	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		01/19/17 15:22	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		01/19/17 15:22	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		01/19/17 15:22	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		01/19/17 15:22	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		01/19/17 15:22	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		01/19/17 15:22	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		01/19/17 15:22	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		01/19/17 15:22	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		01/19/17 15:22	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		01/19/17 15:22	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		01/19/17 15:22	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		01/19/17 15:22	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		01/19/17 15:22	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		01/19/17 15:22	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		01/19/17 15:22	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		01/19/17 15:22	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		01/19/17 15:22	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		01/19/17 15:22	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		01/19/17 15:22	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		01/19/17 15:22	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		01/19/17 15:22	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		01/19/17 15:22	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376143

QC Batch: 456336 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10376143001, 10376143002, 10376143003

METHOD BLANK: 2498726 Matrix: Water
Associated Lab Samples: 10376143001, 10376143002, 10376143003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	01/19/17 13:09	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	01/19/17 13:09	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	01/19/17 13:09	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	01/19/17 13:09	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	01/19/17 13:09	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	01/19/17 13:09	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	01/19/17 13:09	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	01/19/17 13:09	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	01/19/17 13:09	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	01/19/17 13:09	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	01/19/17 13:09	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	01/19/17 13:09	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	01/19/17 13:09	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	01/19/17 13:09	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	01/19/17 13:09	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	01/19/17 13:09	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	01/19/17 13:09	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	01/19/17 13:09	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	01/19/17 13:09	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	01/19/17 13:09	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	01/19/17 13:09	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	01/19/17 13:09	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	01/19/17 13:09	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	01/19/17 13:09	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	01/19/17 13:09	
2-Hexanone	ug/L	<0.19	5.0	0.19	01/19/17 13:09	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	01/19/17 13:09	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	01/19/17 13:09	
Acetone	ug/L	<0.64	20.0	0.64	01/19/17 13:09	
Acrolein	ug/L	<2.1	10.0	2.1	01/19/17 13:09	
Acrylonitrile	ug/L	<0.49	10.0	0.49	01/19/17 13:09	
Benzene	ug/L	<0.042	0.50	0.042	01/19/17 13:09	
Bromobenzene	ug/L	<0.087	0.50	0.087	01/19/17 13:09	
Bromochloromethane	ug/L	<0.082	1.0	0.082	01/19/17 13:09	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	01/19/17 13:09	
Bromoform	ug/L	<0.11	4.0	0.11	01/19/17 13:09	
Bromomethane	ug/L	<0.20	4.0	0.20	01/19/17 13:09	
Carbon disulfide	ug/L	<0.20	1.0	0.20	01/19/17 13:09	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	01/19/17 13:09	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

METHOD BLANK: 2498726

Matrix: Water

Associated Lab Samples: 10376143001, 10376143002, 10376143003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	01/19/17 13:09	
Chloroethane	ug/L	<0.12	1.0	0.12	01/19/17 13:09	
Chloroform	ug/L	<0.21	1.0	0.21	01/19/17 13:09	
Chloromethane	ug/L	<0.080	4.0	0.080	01/19/17 13:09	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	01/19/17 13:09	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	01/19/17 13:09	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	01/19/17 13:09	
Dibromomethane	ug/L	<0.14	1.0	0.14	01/19/17 13:09	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	01/19/17 13:09	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	01/19/17 13:09	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	01/19/17 13:09	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	01/19/17 13:09	
Ethylbenzene	ug/L	<0.075	0.50	0.075	01/19/17 13:09	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	01/19/17 13:09	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
m&p-Xylene	ug/L	<0.11	1.0	0.11	01/19/17 13:09	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	01/19/17 13:09	
Methylene Chloride	ug/L	<0.097	4.0	0.097	01/19/17 13:09	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	01/19/17 13:09	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	01/19/17 13:09	
Naphthalene	ug/L	<0.064	1.0	0.064	01/19/17 13:09	
o-Xylene	ug/L	<0.044	0.50	0.044	01/19/17 13:09	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	01/19/17 13:09	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	01/19/17 13:09	
Styrene	ug/L	<0.056	0.50	0.056	01/19/17 13:09	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	01/19/17 13:09	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	01/19/17 13:09	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	01/19/17 13:09	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	01/19/17 13:09	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	01/19/17 13:09	
Toluene	ug/L	<0.059	0.50	0.059	01/19/17 13:09	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	01/19/17 13:09	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	01/19/17 13:09	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	01/19/17 13:09	
Trichloroethene	ug/L	<0.044	0.40	0.044	01/19/17 13:09	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	01/19/17 13:09	
Vinyl acetate	ug/L	<0.12	10.0	0.12	01/19/17 13:09	
Vinyl chloride	ug/L	<0.098	0.20	0.098	01/19/17 13:09	
Xylene (Total)	ug/L	<0.15	1.5	0.15	01/19/17 13:09	
1,2-Dichloroethane-d4 (S)	%	97	75-125		01/19/17 13:09	
4-Bromofluorobenzene (S)	%	97	75-125		01/19/17 13:09	
Toluene-d8 (S)	%	96	75-125		01/19/17 13:09	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

LABORATORY CONTROL SAMPLE & LCSD: 2498727

2498879

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.8	19.5	109	97	75-125	11	30	
1,1,1-Trichloroethane	ug/L	20	19.5	18.2	98	91	74-125	7	30	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	19.8	105	99	67-131	6	30	
1,1,2-Trichloroethane	ug/L	20	21.7	19.8	108	99	75-125	9	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	23.1	20.9	116	104	75-125	10	30	
1,1-Dichloroethane	ug/L	20	19.5	18.4	97	92	74-125	6	30	
1,1-Dichloroethene	ug/L	20	19.8	18.0	99	90	74-125	10	30	
1,1-Dichloropropene	ug/L	20	20.6	19.2	103	96	74-125	7	30	
1,2,3-Trichlorobenzene	ug/L	20	21.6	20.2	108	101	63-131	7	30	
1,2,3-Trichloropropane	ug/L	20	21.2	20.3	106	101	73-125	4	30	
1,2,4-Trichlorobenzene	ug/L	20	20.5	19.4	102	97	66-126	6	30	
1,2,4-Trimethylbenzene	ug/L	20	19.6	17.0	98	85	74-129	14	30	
1,2-Dibromo-3-chloropropane	ug/L	50	49.0	46.8	98	94	54-129	5	30	
1,2-Dibromoethane (EDB)	ug/L	20	20.8	19.2	104	96	75-125	8	30	
1,2-Dichlorobenzene	ug/L	20	21.4	19.1	107	96	75-125	11	30	
1,2-Dichloroethane	ug/L	20	19.1	18.5	96	92	75-125	3	30	
1,2-Dichloroethene (Total)	ug/L	40	40.4	38.2	101	95	75-125	6	30	
1,2-Dichloropropane	ug/L	20	21.0	19.2	105	96	75-125	9	30	
1,3,5-Trimethylbenzene	ug/L	20	19.9	17.2	100	86	73-127	15	30	
1,3-Dichlorobenzene	ug/L	20	21.3	18.8	106	94	75-125	13	30	
1,3-Dichloropropane	ug/L	20	20.8	19.6	104	98	69-125	6	30	
1,4-Dichlorobenzene	ug/L	20	21.5	18.8	107	94	75-125	13	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	483	478	121	120	70-130	1	30	
2,2,4-Trimethylpentane	ug/L	20	19.6	18.5	98	93	67-138	6	30	
2,2-Dichloropropane	ug/L	20	18.9	17.8	94	89	69-125	6	30	
2-Butanone (MEK)	ug/L	100	93.1	89.5	93	89	48-145	4	30	
2-Chlorotoluene	ug/L	20	21.1	18.3	106	91	74-125	14	30	
2-Hexanone	ug/L	100	90.2	86.2	90	86	63-135	4	30	
4-Chlorotoluene	ug/L	20	20.4	17.7	102	88	73-125	14	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.7	86.4	91	86	53-138	5	30	
Acetone	ug/L	100	107	107	107	107	70-142	0	30	
Acrolein	ug/L	200	200	201	100	100	44-150	0	30	
Acrylonitrile	ug/L	200	196	197	98	98	68-125	0	30	
Benzene	ug/L	20	19.2	18.0	96	90	65-125	6	30	
Bromobenzene	ug/L	20	22.0	19.8	110	99	75-125	11	30	
Bromochloromethane	ug/L	20	22.9	22.3	114	112	75-125	3	30	
Bromodichloromethane	ug/L	20	22.2	20.7	111	103	73-125	7	30	
Bromoform	ug/L	20	18.5	17.8	93	89	69-125	4	30	
Bromomethane	ug/L	20	14.2	14.8	71	74	40-136	4	30	
Carbon disulfide	ug/L	20	18.2	17.3	91	87	36-150	5	30	
Carbon tetrachloride	ug/L	20	20.5	19.1	102	95	70-125	7	30	
Chlorobenzene	ug/L	20	20.7	18.3	103	92	75-125	12	30	
Chloroethane	ug/L	20	19.1	17.3	95	87	67-141	10	30	
Chloroform	ug/L	20	19.6	18.5	98	93	75-125	5	30	
Chloromethane	ug/L	20	20.7	13.3	103	66	50-150	44	30	R1
cis-1,2-Dichloroethene	ug/L	20	20.1	18.9	101	94	75-125	6	30	
cis-1,3-Dichloropropene	ug/L	20	20.4	19.0	102	95	75-125	7	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10376143

LABORATORY CONTROL SAMPLE & LCSD:		2498727		2498879							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	21.2	19.9	106	99	75-125	6	30		
Dibromomethane	ug/L	20	21.8	20.4	109	102	75-129	7	30		
Dichlorodifluoromethane	ug/L	20	17.0	15.7	85	78	59-135	8	30		
Dichlorofluoromethane	ug/L	20	18.8	17.7	94	88	74-130	6	30		
Diisopropyl ether	ug/L	20	18.8	18.2	94	91	71-125	4	30		
Ethyl-tert-butyl ether	ug/L	20	20.4	19.8	102	99	70-130	3	30		
Ethylbenzene	ug/L	20	19.9	17.1	100	85	75-125	15	30		
Hexachloro-1,3-butadiene	ug/L	20	19.9	19.7	100	98	72-126	1	30		
Isopropylbenzene (Cumene)	ug/L	20	19.1	16.1	95	80	71-136	17	30		
m&p-Xylene	ug/L	40	39.6	34.5	99	86	75-125	14	30		
Methyl-tert-butyl ether	ug/L	20	19.1	18.9	95	95	73-127	1	30		
Methylene Chloride	ug/L	20	21.6	20.9	108	104	68-128	3	30		
n-Butylbenzene	ug/L	20	18.7	16.9	94	84	70-126	10	30		
n-Propylbenzene	ug/L	20	19.4	16.5	97	83	67-131	16	30		
Naphthalene	ug/L	20	19.4	17.8	97	89	52-134	9	30		
o-Xylene	ug/L	20	19.5	17.1	98	86	75-125	13	30		
p-Isopropyltoluene	ug/L	20	18.3	16.3	92	82	74-125	12	30		
sec-Butylbenzene	ug/L	20	19.2	16.9	96	84	69-134	13	30		
Styrene	ug/L	20	20.2	17.8	101	89	75-125	13	30		
tert-Amylmethyl ether	ug/L	20	19.5	18.9	97	95	70-130	3	30		
tert-Butyl Alcohol	ug/L	200	212	210	106	105	66-128	1	30		
tert-Butylbenzene	ug/L	20	19.0	16.6	95	83	71-128	14	30		
Tetrachloroethene	ug/L	20	21.5	18.4	107	92	74-125	15	30		
Tetrahydrofuran	ug/L	200	204	201	102	100	64-142	1	30		
Toluene	ug/L	20	20.0	18.0	100	90	75-125	11	30		
trans-1,2-Dichloroethene	ug/L	20	20.3	19.3	101	96	73-125	5	30		
trans-1,3-Dichloropropene	ug/L	20	21.0	19.5	105	98	75-125	7	30		
trans-1,4-Dichloro-2-butene	ug/L	50	49.1	47.2	98	94	54-133	4	30		
Trichloroethene	ug/L	20	22.2	19.7	111	98	75-125	12	30		
Trichlorofluoromethane	ug/L	20	21.0	19.3	105	97	75-126	8	30		
Vinyl acetate	ug/L	20	19.9	19.8	99	99	67-126	0	30		
Vinyl chloride	ug/L	20	16.8	15.8	84	79	72-125	6	30		
Xylene (Total)	ug/L	60	59.1	51.6	99	86	75-125	14	30		
1,2-Dichloroethane-d4 (S)	%				95	99	75-125				
4-Bromofluorobenzene (S)	%				95	96	75-125				
Toluene-d8 (S)	%				97	96	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2500316		2500317								
Parameter	Units	10376115002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.13	40	40	44.5	44.0	111	110	75-127	1	30	
1,1,1-Trichloroethane	ug/L	<0.11	40	40	43.7	41.4	109	103	66-142	5	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.11	40	40	42.7	42.9	107	107	70-131	0	30	
1,1,2-Trichloroethane	ug/L	<0.13	40	40	44.3	44.0	111	110	75-128	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Parameter	Units	2500316		2500317		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result								
1,1,2-Trichlorotrifluoroethane	ug/L	<0.26	40	40	55.0	50.6	138	127	54-150	8	30		
1,1-Dichloroethane	ug/L	<0.11	40	40	42.9	41.0	107	102	58-147	5	30		
1,1-Dichloroethene	ug/L	<0.14	40	40	43.5	42.2	109	105	49-150	3	30		
1,1-Dichloropropene	ug/L	<0.16	40	40	47.1	44.7	118	112	58-147	5	30		
1,2,3-Trichlorobenzene	ug/L	<0.34	40	40	43.1	40.5	108	101	57-139	6	30		
1,2,3-Trichloropropane	ug/L	<0.38	40	40	43.0	41.8	107	105	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.28	40	40	41.8	39.8	105	99	55-136	5	30		
1,2,4-Trimethylbenzene	ug/L	10.5	40	40	50.4	49.8	100	98	67-138	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<1.2	100	100	101	97.9	101	98	63-136	3	30		
1,2-Dibromoethane (EDB)	ug/L	<0.18	40	40	41.8	41.9	105	105	74-125	0	30		
1,2-Dichlorobenzene	ug/L	<0.16	40	40	42.4	42.6	106	106	75-125	0	30		
1,2-Dichloroethane	ug/L	<0.14	40	40	40.5	39.7	101	99	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.33	80	80	88.0	85.0	110	106	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.13	40	40	43.3	43.8	108	109	63-138	1	30		
1,3,5-Trimethylbenzene	ug/L	52.2	40	40	91.5	89.7	98	94	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.17	40	40	42.5	42.5	106	106	75-125	0	30		
1,3-Dichloropropane	ug/L	<0.12	40	40	43.1	43.7	108	109	65-135	1	30		
1,4-Dichlorobenzene	ug/L	<0.16	40	40	42.4	43.0	106	107	70-126	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	<9.6	800	800	971	1030	121	129	54-145	6	30		
2,2,4-Trimethylpentane	ug/L	<0.17	40	40	44.7	41.7	112	104	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.19	40	40	41.6	39.7	104	99	39-148	5	30		
2-Butanone (MEK)	ug/L	<2.2	200	200	195	175	98	88	50-144	11	30		
2-Chlorotoluene	ug/L	<0.17	40	40	40.7	40.5	102	101	71-135	0	30		
2-Hexanone	ug/L	<0.38	200	200	183	175	92	87	43-150	5	30		
4-Chlorotoluene	ug/L	<0.096	40	40	40.8	40.6	102	102	71-131	0	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<1.6	200	200	186	178	93	89	60-147	4	30		
Acetone	ug/L	<1.3	200	200	239	241	120	121	59-150	1	30		
Acrolein	ug/L	<4.2	400	400	469	441	117	110	30-150	6	30		
Acrylonitrile	ug/L	<0.98	400	400	416	389	104	97	41-148	7	30		
Benzene	ug/L	5.4	40	40	46.8	45.4	103	100	61-138	3	30		
Bromobenzene	ug/L	<0.17	40	40	45.0	46.1	112	115	74-130	2	30		
Bromochloromethane	ug/L	<0.16	40	40	49.0	46.8	122	117	65-137	4	30		
Bromodichloromethane	ug/L	<0.14	40	40	45.6	45.6	114	114	66-136	0	30		
Bromoform	ug/L	<0.22	40	40	38.6	37.5	96	94	71-125	3	30		
Bromomethane	ug/L	<0.40	40	40	36.6	36.3	91	91	30-150	1	30		
Carbon disulfide	ug/L	<0.40	40	40	41.1	38.8	103	97	30-150	6	30		
Carbon tetrachloride	ug/L	<0.16	40	40	46.5	43.9	116	110	68-140	6	30		
Chlorobenzene	ug/L	<0.13	40	40	42.5	42.9	106	107	75-132	1	30		
Chloroethane	ug/L	<0.24	40	40	41.2	37.4	103	93	55-150	10	30		
Chloroform	ug/L	<0.42	40	40	42.3	40.9	106	102	64-139	3	30		
Chloromethane	ug/L	<0.16	40	40	31.1	29.3	78	73	73-150	6	30		
cis-1,2-Dichloroethene	ug/L	<0.24	40	40	43.7	42.1	109	105	62-138	4	30		
cis-1,3-Dichloropropene	ug/L	<0.14	40	40	41.3	41.8	103	104	70-125	1	30		
Dibromochloromethane	ug/L	<0.096	40	40	43.8	43.7	109	109	74-125	0	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Parameter	Units	2500316		2500317		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10376115002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	<0.28	40	40	44.6	44.1	112	110	66-138	1	30	
Dichlorodifluoromethane	ug/L	<0.15	40	40	40.9	37.1	102	93	53-150	10	30	
Dichlorofluoromethane	ug/L	<0.11	40	40	41.9	38.7	105	97	58-150	8	30	
Diisopropyl ether	ug/L	<0.10	40	40	40.6	39.9	101	100	50-139	2	30	
Ethyl-tert-butyl ether	ug/L	<0.12	40	40	44.0	42.4	110	106	30-140	4	30	
Ethylbenzene	ug/L	0.24J	40	40	41.1	40.3	102	100	66-141	2	30	
Hexachloro-1,3-butadiene	ug/L	<0.26	40	40	46.0	42.1	115	105	63-139	9	30	
Isopropylbenzene (Cumene)	ug/L	<0.13	40	40	38.7	37.8	97	95	65-146	2	30	
m&p-Xylene	ug/L	36.9	80	80	121	118	106	102	72-142	3	30	
Methyl-tert-butyl ether	ug/L	<0.094	40	40	41.2	39.8	103	99	63-134	3	30	
Methylene Chloride	ug/L	<0.19	40	40	47.8	45.1	119	113	49-143	6	30	
n-Butylbenzene	ug/L	2.4	40	40	41.2	39.7	97	93	67-134	4	30	
n-Propylbenzene	ug/L	<0.098	40	40	38.8	37.8	97	95	62-142	3	30	
Naphthalene	ug/L	8.4	40	40	49.0	47.5	101	98	41-150	3	30	
o-Xylene	ug/L	188	40	40	225	218	93	75	66-138	3	30	
p-Isopropyltoluene	ug/L	1.2	40	40	44.0	42.1	107	102	64-137	4	30	
sec-Butylbenzene	ug/L	<0.19	40	40	38.7	37.5	97	94	65-142	3	30	
Styrene	ug/L	<0.11	40	40	42.0	42.3	105	106	61-142	1	30	
tert-Amylmethyl ether	ug/L	<0.15	40	40	41.2	40.5	103	101	65-125	2	30	
tert-Butyl Alcohol	ug/L	<1.8	400	400	431	439	108	110	59-138	2	30	
tert-Butylbenzene	ug/L	<0.10	40	40	38.8	37.8	97	94	69-135	3	30	
Tetrachloroethene	ug/L	<0.26	40	40	44.0	43.3	110	108	62-142	1	30	
Tetrahydrofuran	ug/L	<3.0	400	400	439	451	110	113	55-150	3	30	
Toluene	ug/L	8.3	40	40	50.6	49.6	106	103	66-132	2	30	
trans-1,2-Dichloroethene	ug/L	<0.30	40	40	44.3	42.9	111	107	48-150	3	30	
trans-1,3-Dichloropropene	ug/L	<0.088	40	40	42.5	43.0	106	107	65-130	1	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.90	100	100	99.3	100	99	100	31-150	1	30	
Trichloroethene	ug/L	<0.088	40	40	46.6	46.3	116	116	64-142	0	30	
Trichlorofluoromethane	ug/L	<0.11	40	40	49.3	45.8	123	115	63-150	7	30	
Vinyl acetate	ug/L	<0.24	40	40	41.8	40.4	104	101	30-150	3	30	
Vinyl chloride	ug/L	<0.20	40	40	38.9	35.8	97	90	58-150	8	30	
Xylene (Total)	ug/L	225	120	120	347	336	101	93	70-140	3	30	
1,2-Dichloroethane-d4 (S)	%						97	94	75-125			
4-Bromofluorobenzene (S)	%						96	97	75-125			
Toluene-d8 (S)	%						97	96	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10376143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10376143001	SB-43	EPA 8260B	456336		
10376143002	SB-43	EPA 8260B	456336		
10376143003	Trip Blank	EPA 8260B	456336		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

15376143

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: CH2M Hill	Report To: Mark Ochsner, Brad Ostapkowicz	Attention: Gary Honeyman	Company Name: UPRR	Company Name: UPRR	Company Name: UPRR
Address: 999 W. Riverside Ave, Suite 500 Spokane, WA 99201	Copy To: Steve Demus	Purchase Order #:	Project Name: UPRR_Freeman	Address: CAS	Regulatory Agency:
Email: mark.ochsner@ch2n.com	Phone: [Redacted]	Project #: 1497	Requested Due Date/Circle: 24 Hr / 3 Day / 5 Day	Pace Quote:	State / Location: WA / Freeman
					WA / Freeman

Page: / Of

ITEM #	MATRIX	MATRIX CODE	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES							ANALYSES TEST Y/N	VOCS by 8260	Dry Weight	Residual Chlorine (Y/N)
				START DATE	END DATE			UNPRESERVED	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				
1	MW17D-25-011217	WT6	G-GRAB	1/12/17	1445		3											001
2	MW17D-40-011217	WT6	G-GRAB	1/12/17	1530		3											002
3	TRIP BLANK	WT6	G-GRAB	1/12/17	0800		2											003
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		ACCEPTED BY / AFFILIATION		SAMPLE CONDITIONS	
[Redacted]		[Redacted]		[Redacted]		TEMP in C	
[Redacted]		[Redacted]		[Redacted]		Received on	
[Redacted]		[Redacted]		[Redacted]		Ice (Y/N)	
[Redacted]		[Redacted]		[Redacted]		Custody Sealed (Y/N)	
[Redacted]		[Redacted]		[Redacted]		Cooler (Y/N)	
[Redacted]		[Redacted]		[Redacted]		Samples Intact (Y/N)	

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER:
 SIGNATURE of SAMPLER:
 DATE Signed:

Sample Condition Upon Receipt – ESI Tech Specs

Client Name: CH2M Hill Project #: _____

WO#: 10376143

10376143

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7021 4575 6723

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read (°C): 0.9 Cooler Temp Corrected (°C): 0.8 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: -0.1 Date and Initials of Person Examining Contents: 1-17-17 AA

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. <u>No MS/MSD</u>
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	12.
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	Sample #
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
3 Trip Blanks Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): <u>103693</u>	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>1530</u> Temp: <u>0.9</u>	Corrected Temp: <u>0.8</u>
Time: <u>1550</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GRASS Date: 01/17/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

February 03, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

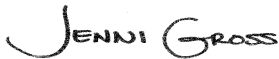
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10377560

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on January 28, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10377560001	MW14D-30-012517	Water	01/25/17 12:47	01/28/17 09:25
10377560002	Trip Blank	Water	01/25/17 08:00	01/28/17 09:25

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10377560001	MW14D-30-012517	EPA 8260B	DJB	83	PASI-M
10377560002	Trip Blank	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10377560001	MW14D-30-012517					
EPA 8260B	1,2-Dichloroethane	0.19J	ug/L	0.50	02/01/17 19:55	
EPA 8260B	2-Hexanone	8.5	ug/L	5.0	02/01/17 19:55	
EPA 8260B	Benzene	0.087J	ug/L	0.50	02/01/17 19:55	
EPA 8260B	Carbon tetrachloride	20.3	ug/L	1.0	02/01/17 19:55	
EPA 8260B	Chloroform	12.3	ug/L	1.0	02/01/17 19:55	
EPA 8260B	Ethylbenzene	0.14J	ug/L	0.50	02/01/17 19:55	
EPA 8260B	Naphthalene	0.13J	ug/L	1.0	02/01/17 19:55	
10377560002	Trip Blank					
EPA 8260B	Methylene Chloride	0.30J	ug/L	4.0	02/01/17 14:23	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: February 03, 2017

General Information:

2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 458179

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2507785)
 - Bromomethane
- LCS (Lab ID: 2507786)
 - Bromomethane
- LCSD (Lab ID: 2507787)
 - Bromomethane
- MS (Lab ID: 2507818)
 - Bromomethane
- MSD (Lab ID: 2507819)
 - Bromomethane
- MW14D-30-012517 (Lab ID: 10377560001)
 - Bromomethane
- Trip Blank (Lab ID: 10377560002)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: February 03, 2017

QC Batch: 458179

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10377709003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2507818)
 - Chloromethane
 - Hexachloro-1,3-butadiene
- MSD (Lab ID: 2507819)
 - Chloromethane

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Sample: MW14D-30-012517 Lab ID: 10377560001 Collected: 01/25/17 12:47 Received: 01/28/17 09:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		02/01/17 19:55	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		02/01/17 19:55	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		02/01/17 19:55	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		02/01/17 19:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		02/01/17 19:55	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		02/01/17 19:55	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		02/01/17 19:55	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		02/01/17 19:55	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		02/01/17 19:55	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		02/01/17 19:55	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		02/01/17 19:55	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		02/01/17 19:55	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		02/01/17 19:55	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		02/01/17 19:55	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		02/01/17 19:55	95-50-1	
1,2-Dichloroethane	0.19J	ug/L	0.50	0.072	1		02/01/17 19:55	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		02/01/17 19:55	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		02/01/17 19:55	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		02/01/17 19:55	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		02/01/17 19:55	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		02/01/17 19:55	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		02/01/17 19:55	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		02/01/17 19:55	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		02/01/17 19:55	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		02/01/17 19:55	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		02/01/17 19:55	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		02/01/17 19:55	95-49-8	
2-Hexanone	8.5	ug/L	5.0	0.19	1		02/01/17 19:55	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		02/01/17 19:55	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		02/01/17 19:55	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		02/01/17 19:55	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		02/01/17 19:55	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		02/01/17 19:55	107-13-1	
Benzene	0.087J	ug/L	0.50	0.042	1		02/01/17 19:55	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		02/01/17 19:55	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		02/01/17 19:55	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		02/01/17 19:55	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		02/01/17 19:55	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		02/01/17 19:55	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		02/01/17 19:55	75-15-0	
Carbon tetrachloride	20.3	ug/L	1.0	0.079	1		02/01/17 19:55	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		02/01/17 19:55	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		02/01/17 19:55	75-00-3	
Chloroform	12.3	ug/L	1.0	0.21	1		02/01/17 19:55	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		02/01/17 19:55	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		02/01/17 19:55	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Sample: MW14D-30-012517 Lab ID: 10377560001 Collected: 01/25/17 12:47 Received: 01/28/17 09:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		02/01/17 19:55	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		02/01/17 19:55	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		02/01/17 19:55	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		02/01/17 19:55	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		02/01/17 19:55	637-92-3	
Ethylbenzene	0.14J	ug/L	0.50	0.075	1		02/01/17 19:55	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		02/01/17 19:55	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		02/01/17 19:55	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		02/01/17 19:55	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		02/01/17 19:55	75-09-2	
Naphthalene	0.13J	ug/L	1.0	0.064	1		02/01/17 19:55	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		02/01/17 19:55	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		02/01/17 19:55	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		02/01/17 19:55	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		02/01/17 19:55	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		02/01/17 19:55	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		02/01/17 19:55	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		02/01/17 19:55	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		02/01/17 19:55	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		02/01/17 19:55	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		02/01/17 19:55	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		02/01/17 19:55	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		02/01/17 19:55	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		02/01/17 19:55	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		02/01/17 19:55	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		02/01/17 19:55	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		02/01/17 19:55	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		02/01/17 19:55	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		02/01/17 19:55	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		02/01/17 19:55	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		02/01/17 19:55	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		02/01/17 19:55	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		02/01/17 19:55	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		02/01/17 19:55	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		02/01/17 19:55	17060-07-0	
Toluene-d8 (S)	93	%	75-125		1		02/01/17 19:55	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		02/01/17 19:55	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Sample: Trip Blank Lab ID: 10377560002 Collected: 01/25/17 08:00 Received: 01/28/17 09:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		02/01/17 14:23	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		02/01/17 14:23	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		02/01/17 14:23	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		02/01/17 14:23	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		02/01/17 14:23	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		02/01/17 14:23	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		02/01/17 14:23	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		02/01/17 14:23	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		02/01/17 14:23	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		02/01/17 14:23	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		02/01/17 14:23	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	0.50	0.068	1		02/01/17 14:23	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		02/01/17 14:23	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		02/01/17 14:23	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		02/01/17 14:23	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		02/01/17 14:23	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		02/01/17 14:23	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		02/01/17 14:23	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	0.50	0.042	1		02/01/17 14:23	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		02/01/17 14:23	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		02/01/17 14:23	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		02/01/17 14:23	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		02/01/17 14:23	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		02/01/17 14:23	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		02/01/17 14:23	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		02/01/17 14:23	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		02/01/17 14:23	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		02/01/17 14:23	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		02/01/17 14:23	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		02/01/17 14:23	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		02/01/17 14:23	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		02/01/17 14:23	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		02/01/17 14:23	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		02/01/17 14:23	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		02/01/17 14:23	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		02/01/17 14:23	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		02/01/17 14:23	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		02/01/17 14:23	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		02/01/17 14:23	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		02/01/17 14:23	75-15-0	
Carbon tetrachloride	<0.079	ug/L	1.0	0.079	1		02/01/17 14:23	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		02/01/17 14:23	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		02/01/17 14:23	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		02/01/17 14:23	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		02/01/17 14:23	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		02/01/17 14:23	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Sample: Trip Blank **Lab ID: 10377560002** Collected: 01/25/17 08:00 Received: 01/28/17 09:25 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		02/01/17 14:23	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		02/01/17 14:23	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		02/01/17 14:23	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		02/01/17 14:23	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		02/01/17 14:23	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		02/01/17 14:23	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	4.0	0.13	1		02/01/17 14:23	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	0.50	0.064	1		02/01/17 14:23	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		02/01/17 14:23	1634-04-4	
Methylene Chloride	0.30J	ug/L	4.0	0.097	1		02/01/17 14:23	75-09-2	
Naphthalene	<0.064	ug/L	1.0	0.064	1		02/01/17 14:23	91-20-3	
Styrene	<0.056	ug/L	0.50	0.056	1		02/01/17 14:23	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		02/01/17 14:23	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		02/01/17 14:23	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		02/01/17 14:23	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		02/01/17 14:23	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		02/01/17 14:23	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		02/01/17 14:23	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		02/01/17 14:23	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		02/01/17 14:23	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		02/01/17 14:23	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		02/01/17 14:23	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		02/01/17 14:23	179601-23-1	
n-Butylbenzene	<0.16	ug/L	0.50	0.16	1		02/01/17 14:23	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		02/01/17 14:23	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		02/01/17 14:23	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	0.50	0.064	1		02/01/17 14:23	99-87-6	
sec-Butylbenzene	<0.094	ug/L	0.50	0.094	1		02/01/17 14:23	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		02/01/17 14:23	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		02/01/17 14:23	75-65-0	
tert-Butylbenzene	<0.051	ug/L	0.50	0.051	1		02/01/17 14:23	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		02/01/17 14:23	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		02/01/17 14:23	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		02/01/17 14:23	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		02/01/17 14:23	17060-07-0	
Toluene-d8 (S)	92	%	75-125		1		02/01/17 14:23	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		02/01/17 14:23	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10377560

QC Batch: 458179 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10377560001, 10377560002

METHOD BLANK: 2507785 Matrix: Water
Associated Lab Samples: 10377560001, 10377560002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	02/01/17 12:55	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	02/01/17 12:55	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	02/01/17 12:55	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	02/01/17 12:55	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	02/01/17 12:55	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	02/01/17 12:55	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	02/01/17 12:55	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	02/01/17 12:55	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	02/01/17 12:55	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	02/01/17 12:55	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	02/01/17 12:55	
1,2,4-Trimethylbenzene	ug/L	<0.068	0.50	0.068	02/01/17 12:55	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	02/01/17 12:55	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	02/01/17 12:55	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	02/01/17 12:55	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	02/01/17 12:55	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	02/01/17 12:55	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	02/01/17 12:55	
1,3,5-Trimethylbenzene	ug/L	<0.042	0.50	0.042	02/01/17 12:55	
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	02/01/17 12:55	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	02/01/17 12:55	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	02/01/17 12:55	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	02/01/17 12:55	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	02/01/17 12:55	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	02/01/17 12:55	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	02/01/17 12:55	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	02/01/17 12:55	
2-Hexanone	ug/L	<0.19	5.0	0.19	02/01/17 12:55	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	02/01/17 12:55	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	02/01/17 12:55	
Acetone	ug/L	<0.64	20.0	0.64	02/01/17 12:55	
Acrolein	ug/L	<2.1	10.0	2.1	02/01/17 12:55	
Acrylonitrile	ug/L	<0.49	10.0	0.49	02/01/17 12:55	
Benzene	ug/L	<0.042	0.50	0.042	02/01/17 12:55	
Bromobenzene	ug/L	<0.087	0.50	0.087	02/01/17 12:55	
Bromochloromethane	ug/L	<0.082	1.0	0.082	02/01/17 12:55	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	02/01/17 12:55	
Bromoform	ug/L	<0.11	4.0	0.11	02/01/17 12:55	
Bromomethane	ug/L	<0.20	4.0	0.20	02/01/17 12:55	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	02/01/17 12:55	
Carbon tetrachloride	ug/L	<0.079	1.0	0.079	02/01/17 12:55	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10377560

METHOD BLANK: 2507785 Matrix: Water
Associated Lab Samples: 10377560001, 10377560002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	02/01/17 12:55	
Chloroethane	ug/L	<0.12	1.0	0.12	02/01/17 12:55	
Chloroform	ug/L	<0.21	1.0	0.21	02/01/17 12:55	
Chloromethane	ug/L	<0.080	4.0	0.080	02/01/17 12:55	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	02/01/17 12:55	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	02/01/17 12:55	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	02/01/17 12:55	
Dibromomethane	ug/L	<0.14	1.0	0.14	02/01/17 12:55	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	02/01/17 12:55	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	02/01/17 12:55	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	02/01/17 12:55	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	02/01/17 12:55	
Ethylbenzene	ug/L	<0.075	0.50	0.075	02/01/17 12:55	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	02/01/17 12:55	
Isopropylbenzene (Cumene)	ug/L	<0.064	0.50	0.064	02/01/17 12:55	
m&p-Xylene	ug/L	<0.11	1.0	0.11	02/01/17 12:55	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	02/01/17 12:55	
Methylene Chloride	ug/L	<0.097	4.0	0.097	02/01/17 12:55	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	02/01/17 12:55	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	02/01/17 12:55	
Naphthalene	ug/L	<0.064	1.0	0.064	02/01/17 12:55	
o-Xylene	ug/L	<0.044	0.50	0.044	02/01/17 12:55	
p-Isopropyltoluene	ug/L	<0.064	0.50	0.064	02/01/17 12:55	
sec-Butylbenzene	ug/L	<0.094	0.50	0.094	02/01/17 12:55	
Styrene	ug/L	<0.056	0.50	0.056	02/01/17 12:55	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	02/01/17 12:55	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	02/01/17 12:55	
tert-Butylbenzene	ug/L	<0.051	0.50	0.051	02/01/17 12:55	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	02/01/17 12:55	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	02/01/17 12:55	
Toluene	ug/L	<0.059	0.50	0.059	02/01/17 12:55	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	02/01/17 12:55	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	02/01/17 12:55	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	02/01/17 12:55	
Trichloroethene	ug/L	<0.044	0.40	0.044	02/01/17 12:55	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	02/01/17 12:55	
Vinyl acetate	ug/L	<0.12	10.0	0.12	02/01/17 12:55	
Vinyl chloride	ug/L	<0.098	0.20	0.098	02/01/17 12:55	
Xylene (Total)	ug/L	<0.15	1.5	0.15	02/01/17 12:55	
1,2-Dichloroethane-d4 (S)	%	93	75-125		02/01/17 12:55	
4-Bromofluorobenzene (S)	%	99	75-125		02/01/17 12:55	
Toluene-d8 (S)	%	91	75-125		02/01/17 12:55	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

LABORATORY CONTROL SAMPLE & LCSD: 2507786		2507787									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	21.6	21.8	108	109	75-125	1	30		
1,1,1-Trichloroethane	ug/L	20	20.4	19.7	102	99	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.2	21.3	101	107	67-131	6	30		
1,1,2-Trichloroethane	ug/L	20	21.4	21.7	107	109	75-125	2	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.8	19.8	104	99	75-125	5	30		
1,1-Dichloroethane	ug/L	20	19.5	18.8	98	94	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.5	19.6	103	98	74-125	4	30		
1,1-Dichloropropene	ug/L	20	22.1	21.1	110	106	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	21.4	22.2	107	111	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.6	21.8	103	109	73-125	6	30		
1,2,4-Trichlorobenzene	ug/L	20	21.0	21.0	105	105	66-126	0	30		
1,2,4-Trimethylbenzene	ug/L	20	19.6	19.5	98	98	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	48.0	50.6	96	101	54-129	5	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.8	21.2	104	106	75-125	2	30		
1,2-Dichlorobenzene	ug/L	20	21.4	21.4	107	107	75-125	0	30		
1,2-Dichloroethane	ug/L	20	19.3	19.6	97	98	75-125	1	30		
1,2-Dichloroethene (Total)	ug/L	40	41.4	40.5	103	101	75-125	2	30		
1,2-Dichloropropane	ug/L	20	21.2	21.2	106	106	75-125	0	30		
1,3,5-Trimethylbenzene	ug/L	20	20.0	19.9	100	99	73-127	1	30		
1,3-Dichlorobenzene	ug/L	20	21.3	21.2	106	106	75-125	0	30		
1,3-Dichloropropane	ug/L	20	20.9	21.0	105	105	69-125	0	30		
1,4-Dichlorobenzene	ug/L	20	21.4	20.9	107	105	75-125	2	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	493	504	123	126	70-130	2	30		
2,2,4-Trimethylpentane	ug/L	20	17.7	16.9	89	84	67-138	5	30		
2,2-Dichloropropane	ug/L	20	19.2	18.5	96	93	69-125	4	30		
2-Butanone (MEK)	ug/L	100	85.2	84.3	85	84	48-145	1	30		
2-Chlorotoluene	ug/L	20	19.4	20.6	97	103	74-125	6	30		
2-Hexanone	ug/L	100	85.1	91.1	85	91	63-135	7	30		
4-Chlorotoluene	ug/L	20	20.2	20.4	101	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	86.0	90.6	86	91	53-138	5	30		
Acetone	ug/L	100	117	118	117	118	70-142	0	30		
Acrolein	ug/L	200	192	197	96	99	44-150	3	30		
Acrylonitrile	ug/L	200	179	189	90	94	68-125	5	30		
Benzene	ug/L	20	19.8	19.1	99	96	65-125	3	30		
Bromobenzene	ug/L	20	22.4	22.4	112	112	75-125	0	30		
Bromochloromethane	ug/L	20	22.7	23.0	114	115	75-125	1	30		
Bromodichloromethane	ug/L	20	22.7	22.8	113	114	73-125	0	30		
Bromoform	ug/L	20	18.6	19.4	93	97	69-125	4	30		
Bromomethane	ug/L	20	10.6	12.6	53	63	40-136	18	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	21.4	20.6	107	103	70-125	4	30		
Chlorobenzene	ug/L	20	20.5	20.3	103	101	75-125	1	30		
Chloroethane	ug/L	20	21.2	22.1	106	110	67-141	4	30		
Chloroform	ug/L	20	20.2	19.3	101	97	75-125	4	30		
Chloromethane	ug/L	20	12.1	11.6	60	58	50-150	4	30		
cis-1,2-Dichloroethene	ug/L	20	20.3	20.3	102	101	75-125	0	30		
cis-1,3-Dichloropropene	ug/L	20	20.0	20.8	100	104	75-125	4	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

LABORATORY CONTROL SAMPLE & LCSD:		2507786		2507787							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	21.4	21.6	107	108	75-125	1	30		
Dibromomethane	ug/L	20	22.2	22.3	111	111	75-129	0	30		
Dichlorodifluoromethane	ug/L	20	17.5	16.4	87	82	59-135	6	30		
Dichlorofluoromethane	ug/L	20	19.4	18.1	97	90	74-130	7	30		
Diisopropyl ether	ug/L	20	18.7	18.5	94	93	71-125	1	30		
Ethyl-tert-butyl ether	ug/L	20	20.8	20.7	104	104	70-130	1	30		
Ethylbenzene	ug/L	20	20.0	19.6	100	98	75-125	2	30		
Hexachloro-1,3-butadiene	ug/L	20	23.3	23.2	116	116	72-126	1	30		
Isopropylbenzene (Cumene)	ug/L	20	19.3	19.0	97	95	71-136	2	30		
m&p-Xylene	ug/L	40	39.9	39.4	100	99	75-125	1	30		
Methyl-tert-butyl ether	ug/L	20	19.5	19.4	97	97	73-127	0	30		
Methylene Chloride	ug/L	20	21.6	21.3	108	106	68-128	2	30		
n-Butylbenzene	ug/L	20	19.1	18.7	96	94	70-126	2	30		
n-Propylbenzene	ug/L	20	19.5	19.3	98	96	67-131	1	30		
Naphthalene	ug/L	20	19.2	20.0	96	100	52-134	4	30		
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30		
p-Isopropyltoluene	ug/L	20	18.6	18.5	93	92	74-125	1	30		
sec-Butylbenzene	ug/L	20	20.0	19.7	100	99	69-134	1	30		
Styrene	ug/L	20	20.4	20.2	102	101	75-125	1	30		
tert-Amylmethyl ether	ug/L	20	20.0	20.3	100	102	70-130	1	30		
tert-Butyl Alcohol	ug/L	200	208	214	104	107	66-128	3	30		
tert-Butylbenzene	ug/L	20	19.4	19.3	97	96	71-128	1	30		
Tetrachloroethene	ug/L	20	22.3	22.0	112	110	74-125	1	30		
Tetrahydrofuran	ug/L	200	234	241	117	121	64-142	3	30		
Toluene	ug/L	20	20.7	20.1	104	100	75-125	3	30		
trans-1,2-Dichloroethene	ug/L	20	21.1	20.3	105	101	73-125	4	30		
trans-1,3-Dichloropropene	ug/L	20	20.0	20.4	100	102	75-125	2	30		
trans-1,4-Dichloro-2-butene	ug/L	50	49.5	51.6	99	103	54-133	4	30		
Trichloroethene	ug/L	20	23.4	22.5	117	113	75-125	4	30		
Trichlorofluoromethane	ug/L	20	21.9	20.4	109	102	75-126	7	30		
Vinyl acetate	ug/L	20	19.7	19.9	98	100	67-126	1	30		
Vinyl chloride	ug/L	20	19.4	18.4	97	92	72-125	5	30		
Xylene (Total)	ug/L	60	59.4	58.8	99	98	75-125	1	30		
1,2-Dichloroethane-d4 (S)	%				90	89	75-125				
4-Bromofluorobenzene (S)	%				99	98	75-125				
Toluene-d8 (S)	%				94	94	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2507818		2507819								
Parameter	Units	10377709003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	20.9	21.4	104	107	75-127	3	30	
1,1,1-Trichloroethane	ug/L	<0.057	20	20	21.1	21.7	106	108	66-142	3	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	20.6	20.4	103	102	70-131	1	30	
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20.9	21.0	105	105	75-128	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2507818		2507819									
Parameter	Units	10377709003	MS	MSD	MS	MSD	MS	MSD	% Rec	Max			Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	26.8	27.6	134	138	54-150	3	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	19.8	20.1	99	100	58-147	2	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	21.8	22.2	109	111	49-150	2	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	23.3	23.4	116	117	58-147	1	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	22.4	22.3	112	111	57-139	1	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	21.1	20.8	105	104	71-127	1	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	21.6	21.6	108	108	55-136	0	30		
1,2,4-Trimethylbenzene	ug/L	0.13J	20	20	19.1	19.3	95	96	67-138	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	49.9	49.3	100	99	63-136	1	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	20.4	20.3	102	101	74-125	0	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	20.5	20.9	102	105	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	19.3	94	97	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	42.2	43.7	105	109	55-146	4	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.8	20.9	104	104	63-138	0	30		
1,3,5-Trimethylbenzene	ug/L	22.4	20	20	42.1	43.2	99	104	69-136	3	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	20.6	20.7	103	103	75-125	0	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	20.5	20.0	102	100	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	20.5	20.8	102	104	70-126	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	456	448	114	112	54-145	2	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	23.5	24.3	117	121	30-150	3	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	20.2	20.3	101	101	39-148	0	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	87.1	86.1	87	86	50-144	1	30		
2-Chlorotoluene	ug/L	<0.084	20	20	17.9	18.5	89	92	71-135	3	30		
2-Hexanone	ug/L	<0.19	100	100	88.1	85.8	88	86	43-150	3	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.5	19.8	97	99	71-131	2	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	88.4	85.8	88	86	60-147	3	30		
Acetone	ug/L	<0.64	100	100	114	111	114	111	59-150	2	30		
Acrolein	ug/L	<2.1	200	200	197	197	99	98	30-150	0	30		
Acrylonitrile	ug/L	<0.49	200	200	180	180	90	90	41-148	0	30		
Benzene	ug/L	1.1	20	20	20.8	21.2	99	101	61-138	2	30		
Bromobenzene	ug/L	<0.087	20	20	21.7	22.3	109	112	74-130	3	30		
Bromochloromethane	ug/L	<0.082	20	20	22.6	22.5	113	112	65-137	0	30		
Bromodichloromethane	ug/L	<0.068	20	20	22.4	22.5	112	112	66-136	0	30		
Bromoform	ug/L	<0.11	20	20	18.2	18.5	91	93	71-125	1	30		
Bromomethane	ug/L	<0.20	20	20	15.1	16.6	76	83	30-150	9	30	CL	
Carbon disulfide	ug/L	<0.20	20	20	20.9	20.8	105	104	30-150	1	30		
Carbon tetrachloride	ug/L	<0.079	20	20	22.7	23.2	114	116	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	20.2	20.3	101	101	75-132	1	30		
Chloroethane	ug/L	<0.12	20	20	24.4	23.2	122	116	55-150	5	30		
Chloroform	ug/L	<0.21	20	20	19.8	20.3	99	102	64-139	2	30		
Chloromethane	ug/L	<0.080	20	20	14.4	13.8	72	69	73-150	4	30	M1	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	20.5	21.5	103	108	62-138	5	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	19.8	19.7	99	99	70-125	0	30		
Dibromochloromethane	ug/L	<0.048	20	20	21.0	20.8	105	104	74-125	1	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10377560

Parameter	Units	10377709003		2507818		2507819		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
Dibromomethane	ug/L	<0.14	20	20	22.3	22.2	112	111	66-138	0	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	25.1	24.9	126	124	53-150	1	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	20.6	20.0	103	100	58-150	3	30		
Diisopropyl ether	ug/L	<0.050	20	20	17.9	18.4	90	92	50-139	3	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	19.7	20.1	98	101	30-140	2	30		
Ethylbenzene	ug/L	<0.075	20	20	19.4	19.8	97	99	66-141	2	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	27.9	26.6	140	133	63-139	5	30	M1	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	18.4	19.1	92	95	65-146	3	30		
m&p-Xylene	ug/L	0.84J	40	40	39.5	40.4	97	99	72-142	2	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	18.6	18.9	93	95	63-134	2	30		
Methylene Chloride	ug/L	<0.097	20	20	21.1	21.2	105	106	49-143	0	30		
n-Butylbenzene	ug/L	<0.16	20	20	21.1	21.0	105	105	67-134	1	30		
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.6	95	98	62-142	3	30		
Naphthalene	ug/L	1.0	20	20	20.4	20.7	97	98	41-150	1	30		
o-Xylene	ug/L	54.3	20	20	71.4	73.9	85	98	66-138	3	30		
p-Isopropyltoluene	ug/L	<0.064	20	20	20.8	20.9	104	104	64-137	0	30		
sec-Butylbenzene	ug/L	<0.094	20	20	19.9	20.0	99	100	65-142	1	30		
Styrene	ug/L	<0.056	20	20	19.4	19.9	97	99	61-142	2	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.6	19.9	98	100	65-125	2	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	193	190	96	95	59-138	1	30		
tert-Butylbenzene	ug/L	<0.051	20	20	19.2	19.5	96	98	69-135	2	30		
Tetrachloroethene	ug/L	<0.13	20	20	22.7	22.9	114	114	62-142	1	30		
Tetrahydrofuran	ug/L	<1.5	200	200	228	226	114	113	55-150	1	30		
Toluene	ug/L	1.1	20	20	21.8	21.8	103	103	66-132	0	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	21.7	22.2	108	111	48-150	2	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.8	19.7	99	99	65-130	0	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	51.2	50.6	102	101	31-150	1	30		
Trichloroethene	ug/L	<0.044	20	20	23.6	23.6	118	118	64-142	0	30		
Trichlorofluoromethane	ug/L	<0.055	20	20	27.1	27.0	136	135	63-150	1	30		
Vinyl acetate	ug/L	<0.12	20	20	18.9	19.3	95	96	30-150	2	30		
Vinyl chloride	ug/L	<0.098	20	20	22.5	22.1	113	111	58-150	2	30		
Xylene (Total)	ug/L	54.3	60	60	111	114	94	100	70-140	3	30		
1,2-Dichloroethane-d4 (S)	%						90	90	75-125				
4-Bromofluorobenzene (S)	%						100	101	75-125				
Toluene-d8 (S)	%						93	94	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10377560

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10377560

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10377560001	MW14D-30-012517	EPA 8260B	458179		
10377560002	Trip Blank	EPA 8260B	458179		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10377560X

KTC
1-28-17

Section A

Required Client Information:

Company: CH2M Hill
 Address: 999 W. Riverside Ave, Suite 500
 Spokane, WA 99201
 Email: mark.Ochsner@ch2n.com
 Phone: _____ Fax: _____
 Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day

Section B

Required Project Information:

Report To: Mark Ochsner, Brad Ostapkowicz
 Copy To: Steve Demus
 Purchase Order #:
 Project Name: UPRR_Freeman
 Project #: 1497

Section C

Invoice Information:

Attention: Gary Honeyman
 Company Name: UPRR
 Address: CAS
 Pace Quote:
 Pace Project Manager:
 Pace Profile #: 36447 / 1

Page: 1 Of 1

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique	MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analytical Test Y/N	Low Level VOCs by 8260	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)		
			START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol					Other	
			DATE	TIME	DATE	TIME															
1	MW14D-30-012517	WTG			1/25/17	1247	3				X										
2	TRIP BLANK	WTG			1/25/17	0800	2				X										
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	ZK Demus / CH2M	1/27/17	11:12	[Signature]	1-28-17	09:25	3.3	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ron McComb

SIGNATURE of SAMPLER: [Signature]

DATE Signed: 1/25/17

TEMP in C

Received on load (Y/N)

Custody Sealed (Y/N)


Cooler (Y/N)

Samples Intact (Y/N)

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CHAM Hill Project #: _____

WO# : 10377560



10377560

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____

Tracking Number: 7021 4575 3779

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 3.4 Cooler Temp Corrected (°C): 3.3 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: -0.1 Date and Initials of Person Examining Contents: KAC 1-28-17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: <u>VOA</u> Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>analyzed</u> <u>KAC 1-28-17</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>108215 and 103693</u>		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>13:14</u>	Temp: <u>3.4</u>	Corrected Temp: <u>3.3</u>
Time: <u>13:24</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: Amanda J. Albrecht

Date: 1/30/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

February 16, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

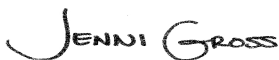
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10379108

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on February 15, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10379108

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10379108001	SB41-GW-37	Water	02/14/17 10:00	02/15/17 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10379108

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10379108001	SB41-GW-37	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10379108001	SB41-GW-37					
EPA 8260B	Methylene Chloride	1.2J	ug/L	20.0	02/15/17 20:32	
EPA 8260B	Toluene	0.52J	ug/L	2.5	02/15/17 20:32	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: February 16, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 460204

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2516863)
 - trans-1,4-Dichloro-2-butene
- MS (Lab ID: 2516864)
 - trans-1,4-Dichloro-2-butene
- MSD (Lab ID: 2516865)
 - trans-1,4-Dichloro-2-butene

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 460204

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

- LCS (Lab ID: 2516863)
 - trans-1,4-Dichloro-2-butene

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: February 16, 2017

Analyte Comments:

QC Batch: 460204

1M: The sample was analyzed at a dilution due to a large amount of sediment in the vials.

- SB41-GW-37 (Lab ID: 10379108001)
 - 1,2-Dichloroethane-d4 (S)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Sample: SB41-GW-37 **Lab ID: 10379108001** Collected: 02/14/17 10:00 Received: 02/15/17 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.32	ug/L	5.0	0.32	5		02/15/17 20:32	630-20-6	
1,1,1-Trichloroethane	<0.28	ug/L	5.0	0.28	5		02/15/17 20:32	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	2.5	0.28	5		02/15/17 20:32	79-34-5	
1,1,2-Trichloroethane	<0.32	ug/L	5.0	0.32	5		02/15/17 20:32	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.65	ug/L	5.0	0.65	5		02/15/17 20:32	76-13-1	
1,1-Dichloroethane	<0.28	ug/L	2.5	0.28	5		02/15/17 20:32	75-34-3	
1,1-Dichloroethene	<0.34	ug/L	5.0	0.34	5		02/15/17 20:32	75-35-4	
1,1-Dichloropropene	<0.41	ug/L	5.0	0.41	5		02/15/17 20:32	563-58-6	
1,2,3-Trichlorobenzene	<0.85	ug/L	2.5	0.85	5		02/15/17 20:32	87-61-6	
1,2,3-Trichloropropane	<0.95	ug/L	20.0	0.95	5		02/15/17 20:32	96-18-4	
1,2,4-Trichlorobenzene	<0.70	ug/L	2.5	0.70	5		02/15/17 20:32	120-82-1	
1,2,4-Trimethylbenzene	<0.34	ug/L	5.0	0.34	5		02/15/17 20:32	95-63-6	
1,2-Dibromo-3-chloropropane	<3.0	ug/L	20.0	3.0	5		02/15/17 20:32	96-12-8	
1,2-Dibromoethane (EDB)	<0.46	ug/L	5.0	0.46	5		02/15/17 20:32	106-93-4	
1,2-Dichlorobenzene	<0.39	ug/L	2.5	0.39	5		02/15/17 20:32	95-50-1	
1,2-Dichloroethane	<0.36	ug/L	2.5	0.36	5		02/15/17 20:32	107-06-2	
1,2-Dichloroethene (Total)	<0.82	ug/L	5.0	0.82	5		02/15/17 20:32	540-59-0	
1,2-Dichloropropane	<0.33	ug/L	20.0	0.33	5		02/15/17 20:32	78-87-5	
1,3,5-Trimethylbenzene	<0.21	ug/L	2.5	0.21	5		02/15/17 20:32	108-67-8	
1,3-Dichlorobenzene	<0.42	ug/L	2.5	0.42	5		02/15/17 20:32	541-73-1	
1,3-Dichloropropane	<0.30	ug/L	5.0	0.30	5		02/15/17 20:32	142-28-9	
1,4-Dichlorobenzene	<0.40	ug/L	2.5	0.40	5		02/15/17 20:32	106-46-7	
1,4-Dioxane (p-Dioxane)	<24.0	ug/L	1000	24.0	5		02/15/17 20:32	123-91-1	
2,2,4-Trimethylpentane	<0.44	ug/L	20.0	0.44	5		02/15/17 20:32	540-84-1	
2,2-Dichloropropane	<0.48	ug/L	5.0	0.48	5		02/15/17 20:32	594-20-7	
2-Butanone (MEK)	<5.5	ug/L	25.0	5.5	5		02/15/17 20:32	78-93-3	
2-Chlorotoluene	<0.42	ug/L	2.5	0.42	5		02/15/17 20:32	95-49-8	
2-Hexanone	<0.96	ug/L	25.0	0.96	5		02/15/17 20:32	591-78-6	
4-Chlorotoluene	<0.24	ug/L	2.5	0.24	5		02/15/17 20:32	106-43-4	
4-Methyl-2-pentanone (MIBK)	<4.0	ug/L	25.0	4.0	5		02/15/17 20:32	108-10-1	
Acetone	<3.2	ug/L	100	3.2	5		02/15/17 20:32	67-64-1	
Acrolein	<10.5	ug/L	50.0	10.5	5		02/15/17 20:32	107-02-8	
Acrylonitrile	<2.4	ug/L	50.0	2.4	5		02/15/17 20:32	107-13-1	
Benzene	<0.21	ug/L	2.5	0.21	5		02/15/17 20:32	71-43-2	
Bromobenzene	<0.44	ug/L	2.5	0.44	5		02/15/17 20:32	108-86-1	
Bromochloromethane	<0.41	ug/L	5.0	0.41	5		02/15/17 20:32	74-97-5	
Bromodichloromethane	<0.34	ug/L	2.5	0.34	5		02/15/17 20:32	75-27-4	
Bromoform	<0.55	ug/L	20.0	0.55	5		02/15/17 20:32	75-25-2	
Bromomethane	<1.0	ug/L	20.0	1.0	5		02/15/17 20:32	74-83-9	
Carbon disulfide	<1.0	ug/L	5.0	1.0	5		02/15/17 20:32	75-15-0	
Carbon tetrachloride	<0.40	ug/L	5.0	0.40	5		02/15/17 20:32	56-23-5	
Chlorobenzene	<0.33	ug/L	2.5	0.33	5		02/15/17 20:32	108-90-7	
Chloroethane	<0.60	ug/L	5.0	0.60	5		02/15/17 20:32	75-00-3	
Chloroform	<1.0	ug/L	5.0	1.0	5		02/15/17 20:32	67-66-3	
Chloromethane	<0.40	ug/L	20.0	0.40	5		02/15/17 20:32	74-87-3	
Dibromochloromethane	<0.24	ug/L	5.0	0.24	5		02/15/17 20:32	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Sample: **SB41-GW-37** Lab ID: **10379108001** Collected: 02/14/17 10:00 Received: 02/15/17 10:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.70	ug/L	5.0	0.70	5		02/15/17 20:32	74-95-3	
Dichlorodifluoromethane	<0.38	ug/L	5.0	0.38	5		02/15/17 20:32	75-71-8	
Dichlorofluoromethane	<0.27	ug/L	5.0	0.27	5		02/15/17 20:32	75-43-4	
Diisopropyl ether	<0.25	ug/L	5.0	0.25	5		02/15/17 20:32	108-20-3	
Ethyl-tert-butyl ether	<0.31	ug/L	2.5	0.31	5		02/15/17 20:32	637-92-3	
Ethylbenzene	<0.38	ug/L	2.5	0.38	5		02/15/17 20:32	100-41-4	
Hexachloro-1,3-butadiene	<0.65	ug/L	20.0	0.65	5		02/15/17 20:32	87-68-3	
Isopropylbenzene (Cumene)	<0.32	ug/L	5.0	0.32	5		02/15/17 20:32	98-82-8	
Methyl-tert-butyl ether	<0.24	ug/L	2.5	0.24	5		02/15/17 20:32	1634-04-4	
Methylene Chloride	1.2J	ug/L	20.0	0.48	5		02/15/17 20:32	75-09-2	
Naphthalene	<0.32	ug/L	5.0	0.32	5		02/15/17 20:32	91-20-3	
Styrene	<0.28	ug/L	5.0	0.28	5		02/15/17 20:32	100-42-5	
Tetrachloroethene	<0.65	ug/L	2.5	0.65	5		02/15/17 20:32	127-18-4	
Tetrahydrofuran	<7.5	ug/L	50.0	7.5	5		02/15/17 20:32	109-99-9	
Toluene	0.52J	ug/L	2.5	0.30	5		02/15/17 20:32	108-88-3	
Trichloroethene	<0.22	ug/L	2.0	0.22	5		02/15/17 20:32	79-01-6	
Trichlorofluoromethane	<0.28	ug/L	2.5	0.28	5		02/15/17 20:32	75-69-4	
Vinyl acetate	<0.60	ug/L	50.0	0.60	5		02/15/17 20:32	108-05-4	
Vinyl chloride	<0.49	ug/L	1.0	0.49	5		02/15/17 20:32	75-01-4	
Xylene (Total)	<0.77	ug/L	7.5	0.77	5		02/15/17 20:32	1330-20-7	
cis-1,2-Dichloroethene	<0.60	ug/L	2.5	0.60	5		02/15/17 20:32	156-59-2	
cis-1,3-Dichloropropene	<0.34	ug/L	2.5	0.34	5		02/15/17 20:32	10061-01-5	
m&p-Xylene	<0.55	ug/L	5.0	0.55	5		02/15/17 20:32	179601-23-1	
n-Butylbenzene	<0.80	ug/L	2.5	0.80	5		02/15/17 20:32	104-51-8	
n-Propylbenzene	<0.24	ug/L	2.5	0.24	5		02/15/17 20:32	103-65-1	
o-Xylene	<0.22	ug/L	5.0	0.22	5		02/15/17 20:32	95-47-6	
p-Isopropyltoluene	<0.32	ug/L	5.0	0.32	5		02/15/17 20:32	99-87-6	
sec-Butylbenzene	<0.47	ug/L	5.0	0.47	5		02/15/17 20:32	135-98-8	
tert-Amylmethyl ether	<0.36	ug/L	2.5	0.36	5		02/15/17 20:32	994-05-8	
tert-Butyl Alcohol	<4.4	ug/L	50.0	4.4	5		02/15/17 20:32	75-65-0	
tert-Butylbenzene	<0.26	ug/L	5.0	0.26	5		02/15/17 20:32	98-06-6	
trans-1,2-Dichloroethene	<0.75	ug/L	5.0	0.75	5		02/15/17 20:32	156-60-5	
trans-1,3-Dichloropropene	<0.22	ug/L	5.0	0.22	5		02/15/17 20:32	10061-02-6	
trans-1,4-Dichloro-2-butene	<2.2	ug/L	50.0	2.2	5		02/15/17 20:32	110-57-6	L3
Surrogates									
1,2-Dichloroethane-d4 (S)	119	%	75-125		5		02/15/17 20:32	17060-07-0	1M
Toluene-d8 (S)	111	%	75-125		5		02/15/17 20:32	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		5		02/15/17 20:32	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379108

METHOD BLANK: 2516862 Matrix: Water
Associated Lab Samples: 10379108001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	02/15/17 12:45	
Chloroethane	ug/L	<0.12	1.0	0.12	02/15/17 12:45	
Chloroform	ug/L	<0.21	1.0	0.21	02/15/17 12:45	
Chloromethane	ug/L	<0.080	4.0	0.080	02/15/17 12:45	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	02/15/17 12:45	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	02/15/17 12:45	
Dibromochloromethane	ug/L	<0.048	1.0	0.048	02/15/17 12:45	
Dibromomethane	ug/L	<0.14	1.0	0.14	02/15/17 12:45	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	02/15/17 12:45	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	02/15/17 12:45	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	02/15/17 12:45	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	02/15/17 12:45	
Ethylbenzene	ug/L	<0.075	0.50	0.075	02/15/17 12:45	
Hexachloro-1,3-butadiene	ug/L	<0.13	4.0	0.13	02/15/17 12:45	
Isopropylbenzene (Cumene)	ug/L	<0.064	1.0	0.064	02/15/17 12:45	
m&p-Xylene	ug/L	<0.11	1.0	0.11	02/15/17 12:45	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	02/15/17 12:45	
Methylene Chloride	ug/L	<0.097	4.0	0.097	02/15/17 12:45	
n-Butylbenzene	ug/L	<0.16	0.50	0.16	02/15/17 12:45	
n-Propylbenzene	ug/L	<0.049	0.50	0.049	02/15/17 12:45	
Naphthalene	ug/L	<0.064	1.0	0.064	02/15/17 12:45	
o-Xylene	ug/L	<0.044	1.0	0.044	02/15/17 12:45	
p-Isopropyltoluene	ug/L	<0.064	1.0	0.064	02/15/17 12:45	
sec-Butylbenzene	ug/L	<0.094	1.0	0.094	02/15/17 12:45	
Styrene	ug/L	<0.056	1.0	0.056	02/15/17 12:45	
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	02/15/17 12:45	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	02/15/17 12:45	
tert-Butylbenzene	ug/L	<0.051	1.0	0.051	02/15/17 12:45	
Tetrachloroethene	ug/L	<0.13	0.50	0.13	02/15/17 12:45	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	02/15/17 12:45	
Toluene	ug/L	<0.059	0.50	0.059	02/15/17 12:45	
trans-1,2-Dichloroethene	ug/L	<0.15	1.0	0.15	02/15/17 12:45	
trans-1,3-Dichloropropene	ug/L	<0.044	1.0	0.044	02/15/17 12:45	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	02/15/17 12:45	
Trichloroethene	ug/L	<0.044	0.40	0.044	02/15/17 12:45	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	02/15/17 12:45	
Vinyl acetate	ug/L	<0.12	10.0	0.12	02/15/17 12:45	
Vinyl chloride	ug/L	<0.098	0.20	0.098	02/15/17 12:45	
Xylene (Total)	ug/L	<0.15	1.5	0.15	02/15/17 12:45	
1,2-Dichloroethane-d4 (S)	%	118	75-125		02/15/17 12:45	
4-Bromofluorobenzene (S)	%	100	75-125		02/15/17 12:45	
Toluene-d8 (S)	%	112	75-125		02/15/17 12:45	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

LABORATORY CONTROL SAMPLE: 2516863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.8	104	75-125	
1,1,1-Trichloroethane	ug/L	20	21.1	105	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	24.9	124	67-131	
1,1,2-Trichloroethane	ug/L	20	21.1	105	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.4	102	75-125	
1,1-Dichloroethane	ug/L	20	22.3	111	74-125	
1,1-Dichloroethene	ug/L	20	19.8	99	74-125	
1,1-Dichloropropene	ug/L	20	20.8	104	74-125	
1,2,3-Trichlorobenzene	ug/L	20	23.2	116	63-131	
1,2,3-Trichloropropane	ug/L	20	22.5	112	73-125	
1,2,4-Trichlorobenzene	ug/L	20	22.6	113	66-126	
1,2,4-Trimethylbenzene	ug/L	20	22.4	112	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	56.3	113	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.7	104	75-125	
1,2-Dichlorobenzene	ug/L	20	23.0	115	75-125	
1,2-Dichloroethane	ug/L	20	19.8	99	75-125	
1,2-Dichloroethene (Total)	ug/L	40	41.2	103	75-125	
1,2-Dichloropropane	ug/L	20	18.3	92	75-125	
1,3,5-Trimethylbenzene	ug/L	20	23.8	119	73-127	
1,3-Dichlorobenzene	ug/L	20	23.6	118	75-125	
1,3-Dichloropropane	ug/L	20	20.8	104	69-125	
1,4-Dichlorobenzene	ug/L	20	23.7	118	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	328	82	70-130	
2,2,4-Trimethylpentane	ug/L	20	21.1	106	67-138	
2,2-Dichloropropane	ug/L	20	24.2	121	69-125	
2-Butanone (MEK)	ug/L	100	110	110	48-145	
2-Chlorotoluene	ug/L	20	23.5	117	74-125	
2-Hexanone	ug/L	100	116	116	63-135	
4-Chlorotoluene	ug/L	20	23.8	119	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	117	117	53-138	
Acetone	ug/L	100	76.8	77	70-142	
Acrolein	ug/L	200	210	105	44-150	
Acrylonitrile	ug/L	200	245	122	68-125	
Benzene	ug/L	20	20.8	104	65-125	
Bromobenzene	ug/L	20	22.5	112	75-125	
Bromochloromethane	ug/L	20	20.7	103	75-125	
Bromodichloromethane	ug/L	20	19.7	98	73-125	
Bromoform	ug/L	20	22.4	112	69-125	
Bromomethane	ug/L	20	21.8	109	40-136	
Carbon disulfide	ug/L	20	20.4	102	36-150	
Carbon tetrachloride	ug/L	20	21.8	109	70-125	
Chlorobenzene	ug/L	20	21.3	106	75-125	
Chloroethane	ug/L	20	21.2	106	67-141	
Chloroform	ug/L	20	20.0	100	75-125	
Chloromethane	ug/L	20	19.0	95	50-150	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.7	103	75-125	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

LABORATORY CONTROL SAMPLE: 2516863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	23.3	117	75-125	
Dibromomethane	ug/L	20	18.0	90	75-129	
Dichlorodifluoromethane	ug/L	20	19.0	95	59-135	
Dichlorofluoromethane	ug/L	20	20.3	101	74-130	
Diisopropyl ether	ug/L	20	21.1	105	71-125	
Ethyl-tert-butyl ether	ug/L	20	21.2	106	70-130	
Ethylbenzene	ug/L	20	21.1	106	75-125	
Hexachloro-1,3-butadiene	ug/L	20	23.8	119	72-126	
Isopropylbenzene (Cumene)	ug/L	20	20.6	103	71-136	
m&p-Xylene	ug/L	40	44.0	110	75-125	
Methyl-tert-butyl ether	ug/L	20	20.9	104	73-127	
Methylene Chloride	ug/L	20	19.7	98	68-128	
n-Butylbenzene	ug/L	20	24.2	121	70-126	
n-Propylbenzene	ug/L	20	23.9	120	67-131	
Naphthalene	ug/L	20	20.9	105	52-134	
o-Xylene	ug/L	20	20.1	100	75-125	
p-Isopropyltoluene	ug/L	20	23.2	116	74-125	
sec-Butylbenzene	ug/L	20	23.0	115	69-134	
Styrene	ug/L	20	20.7	103	75-125	
tert-Amylmethyl ether	ug/L	20	20.7	104	70-130	
tert-Butyl Alcohol	ug/L	200	174	87	66-128	
tert-Butylbenzene	ug/L	20	21.7	108	71-128	
Tetrachloroethene	ug/L	20	21.2	106	74-125	
Tetrahydrofuran	ug/L	200	152	76	64-142	
Toluene	ug/L	20	21.4	107	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.4	102	73-125	
trans-1,3-Dichloropropene	ug/L	20	22.2	111	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	86.9	174	54-133	CH,L1
Trichloroethene	ug/L	20	18.3	92	75-125	
Trichlorofluoromethane	ug/L	20	20.2	101	75-126	
Vinyl acetate	ug/L	20	22.9	115	67-126	
Vinyl chloride	ug/L	20	20.1	100	72-125	
Xylene (Total)	ug/L	60	64.1	107	75-125	
1,2-Dichloroethane-d4 (S)	%			119	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			110	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2516864 2516865

Parameter	Units	2516864		2516865		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result							
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	21.6	21.3	108	107	75-127	1	30	
1,1,1-Trichloroethane	ug/L	<0.057	20	20	22.7	23.5	114	118	66-142	3	30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	23.9	23.7	120	119	70-131	1	30	
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20.7	20.9	103	105	75-128	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Parameter	Units	2516864		2516865		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10379110001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	25.3	26.4	127	132	54-150	4	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	23.4	23.8	117	119	58-147	1	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	22.1	22.6	111	113	49-150	2	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	22.5	23.8	112	119	58-147	5	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	21.3	22.0	107	110	57-139	3	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	21.3	21.1	106	105	71-127	1	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	20.7	21.0	103	105	55-136	1	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	22.1	22.2	111	111	67-138	0	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	48.1	49.4	96	99	63-136	3	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	19.9	19.7	100	99	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	22.8	22.8	114	114	75-125	0	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	19.3	19.9	97	100	63-133	3	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	42.7	44.6	107	112	55-146	4	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	18.9	18.8	95	94	63-138	1	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	23.9	24.0	119	120	69-136	1	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	23.4	23.2	117	116	75-125	1	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	20.5	20.6	103	103	65-135	0	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	23.5	23.1	118	116	70-126	2	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	384	380	96	95	54-145	1	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	23.8	25.0	119	125	30-150	5	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	21.7	22.8	109	114	39-148	5	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	97.5	102	97	102	50-144	4	30		
2-Chlorotoluene	ug/L	<0.084	20	20	23.9	23.6	120	118	71-135	1	30		
2-Hexanone	ug/L	<0.19	100	100	101	101	101	101	43-150	0	30		
4-Chlorotoluene	ug/L	<0.048	20	20	23.6	23.8	118	119	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	104	105	104	105	60-147	1	30		
Acetone	ug/L	<0.64	100	100	83.5	83.8	83	84	59-150	0	30		
Acrolein	ug/L	<2.1	200	200	207	211	103	105	30-150	2	30		
Acrylonitrile	ug/L	<0.49	200	200	222	229	111	115	41-148	3	30		
Benzene	ug/L	<0.042	20	20	21.8	22.3	109	112	61-138	2	30		
Bromobenzene	ug/L	<0.087	20	20	22.7	22.9	113	114	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	20.9	21.2	104	106	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	20.2	20.3	101	102	66-136	1	30		
Bromoform	ug/L	<0.11	20	20	21.2	21.7	106	108	71-125	2	30		
Bromomethane	ug/L	<0.20	20	20	24.5	24.7	123	124	30-150	1	30		
Carbon disulfide	ug/L	<0.20	20	20	21.9	22.4	110	112	30-150	2	30		
Carbon tetrachloride	ug/L	<0.079	20	20	24.7	25.2	124	126	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	21.9	21.9	110	110	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	24.4	23.2	122	116	55-150	5	30		
Chloroform	ug/L	<0.21	20	20	20.8	21.3	104	107	64-139	3	30		
Chloromethane	ug/L	<0.080	20	20	22.2	21.3	111	107	73-150	4	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	21.5	22.4	108	112	62-138	4	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.7	19.2	94	96	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	23.1	22.7	115	114	74-125	1	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379108

Parameter	Units	2516864		2516865		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10379110001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	<0.14	20	20	18.0	17.9	90	90	66-138	0	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	24.6	23.8	123	119	53-150	3	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	23.0	22.0	115	110	58-150	5	30		
Diisopropyl ether	ug/L	<0.050	20	20	20.7	21.7	104	109	50-139	5	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.7	21.4	103	107	30-140	3	30		
Ethylbenzene	ug/L	<0.075	20	20	22.0	22.1	110	111	66-141	1	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	21.2	24.1	106	121	63-139	13	30		
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	20.8	21.0	104	105	65-146	1	30		
m&p-Xylene	ug/L	<0.11	40	40	44.9	45.3	112	113	72-142	1	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.8	20.7	99	103	63-134	4	30		
Methylene Chloride	ug/L	<0.097	20	20	19.8	20.8	99	104	49-143	5	30		
n-Butylbenzene	ug/L	<0.16	20	20	23.7	24.2	118	121	67-134	2	30		
n-Propylbenzene	ug/L	<0.049	20	20	24.9	24.6	124	123	62-142	1	30		
Naphthalene	ug/L	<0.064	20	20	18.3	18.9	92	95	41-150	3	30		
o-Xylene	ug/L	<0.044	20	20	20.2	20.5	101	102	66-138	1	30		
p-Isopropyltoluene	ug/L	<0.064	20	20	22.9	23.5	114	117	64-137	3	30		
sec-Butylbenzene	ug/L	<0.094	20	20	23.5	23.5	118	118	65-142	0	30		
Styrene	ug/L	<0.056	20	20	20.6	20.8	103	104	61-142	1	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	18.9	19.7	94	99	65-125	4	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	198	197	99	98	59-138	1	30		
tert-Butylbenzene	ug/L	<0.051	20	20	22.3	22.5	111	113	69-135	1	30		
Tetrachloroethene	ug/L	<0.13	20	20	22.7	22.5	114	113	62-142	1	30		
Tetrahydrofuran	ug/L	<1.5	200	200	161	164	80	82	55-150	2	30		
Toluene	ug/L	<0.059	20	20	21.8	22.1	109	111	66-132	2	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	21.2	22.2	106	111	48-150	5	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	21.1	21.2	106	106	65-130	0	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	73.2	74.2	146	148	31-150	1	30	CH	
Trichloroethene	ug/L	<0.044	20	20	19.7	19.9	99	100	64-142	1	30		
Trichlorofluoromethane	ug/L	<0.055	20	20	25.3	24.3	126	122	63-150	4	30		
Vinyl acetate	ug/L	<0.12	20	20	18.0	18.9	90	95	30-150	5	30		
Vinyl chloride	ug/L	<0.098	20	20	23.8	22.9	119	115	58-150	4	30		
Xylene (Total)	ug/L	<0.15	60	60	65.1	65.8	109	110	70-140	1	30		
1,2-Dichloroethane-d4 (S)	%						115	119	75-125				
4-Bromofluorobenzene (S)	%						98	98	75-125				
Toluene-d8 (S)	%						108	110	75-125				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1M The sample was analyzed at a dilution due to a large amount of sediment in the vials.

CH The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results may be biased high.

L3 Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379108

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10379108

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10379108001	SB41-GW-37	EPA 8260B	460204		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10379108

Page: 1 of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: CH2M Hill	Address: 999 W. Riverside Ave, Suite 500 Spokane, WA 99201	Report To: Mark Ochsner, Brad Ostapkowicz	Copy To: Steve Demus	Attention: Gary Honeyman	Company Name: UPRR
Email: mark.Ochsner@ch2m.com	Phone: [] Fax: []	Purchase Order #:	Project Name: UPRR_Freeman	Address: CAS	Pace Quote:
Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day		Project #: 1497		Pace Project Manager:	Pace Profile #: 36447 / 1

Regulatory Agency
State / Location
WA / Freeman

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 /, -)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analyses Test Y/N	Low Level VOCs by 8260	Residual Chlorine (Y/N)		
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				Other	
				DATE	TIME	DATE	TIME														
1	SB 41-GW-37	WTG				2/14/17	1000	3				X									
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[Signature] CH2M Hill	2-14-17	1430	[Signature] CH2M	2/14/17	1431				
	[Signature] CH2M	2/14/17	1432	[Signature] CH2M	2-15-17	1000	2.3	✓	✓	✓

SAMPLER NAME AND SIGNATURE		TEMP In C	Received on ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER:						
SIGNATURE of SAMPLER: [Signature]	DATE Signed: 2/14/17					

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: UPRR CH2M Hill Project #: _____

WO# 10379108



10379108

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7096 3372 0223

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 2.2 Cooler Temp Corrected (°C): 2.3 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 10.1 Date and Initials of Person Examining Contents: 2-15-17/HG

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. <u>ND MS/MSD</u>
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>1035</u> Temp: <u>2.2</u>	Corrected Temp: <u>2.3</u>
Time: <u>1055</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 02/15/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

February 23, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

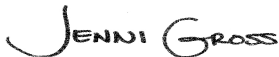
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on February 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10379430001	SB40-SS-05	Solid	02/13/17 10:00	02/17/17 09:45
10379430002	SB40-SS-10	Solid	02/13/17 10:15	02/17/17 09:45
10379430003	SB40-SS-15	Solid	02/13/17 10:20	02/17/17 09:45
10379430004	SB40-SS-20	Solid	02/13/17 10:35	02/17/17 09:45
10379430005	SB40-SS-25	Solid	02/13/17 10:40	02/17/17 09:45
10379430006	SB40-SS-30	Solid	02/13/17 10:55	02/17/17 09:45
10379430007	SB40-SS-35	Solid	02/13/17 11:00	02/17/17 09:45
10379430008	SB40-SS-40	Solid	02/13/17 11:20	02/17/17 09:45
10379430009	SB40-SS-45	Solid	02/13/17 11:25	02/17/17 09:45
10379430010	SB40-SS-50	Solid	02/13/17 11:45	02/17/17 09:45
10379430011	SB40-SS-55	Solid	02/13/17 11:50	02/17/17 09:45
10379430012	SB40-SS-60	Solid	02/13/17 12:05	02/17/17 09:45
10379430013	SB40-SS-65	Solid	02/13/17 12:10	02/17/17 09:45
10379430014	SB40-SS-70	Solid	02/13/17 12:40	02/17/17 09:45
10379430015	SB40-SS-75	Solid	02/13/17 12:45	02/17/17 09:45
10379430016	SB40-SS-80	Solid	02/13/17 13:10	02/17/17 09:45
10379430017	SB40-SS-85	Solid	02/13/17 13:15	02/17/17 09:45
10379430018	SB40-SS-90	Solid	02/13/17 13:40	02/17/17 09:45
10379430019	SB40-SS-95	Solid	02/13/17 13:45	02/17/17 09:45
10379430020	SSFD1	Solid	02/13/17 08:00	02/17/17 09:45
10379430021	SSFD2	Solid	02/13/17 09:00	02/17/17 09:45
10379430022	SB41-SS-05	Solid	02/14/17 08:50	02/17/17 09:45
10379430023	SB41-SS-10	Solid	02/14/17 09:05	02/17/17 09:45
10379430024	SB41-SS-15	Solid	02/14/17 09:10	02/17/17 09:45
10379430025	SB41-SS-20	Solid	02/14/17 09:20	02/17/17 09:45
10379430026	SB41-SS-25	Solid	02/14/17 09:25	02/17/17 09:45
10379430027	SB41-SS-30	Solid	02/14/17 09:40	02/17/17 09:45
10379430028	SB41-SS-35	Solid	02/14/17 09:50	02/17/17 09:45
10379430029	SB41-SS-40	Solid	02/14/17 10:55	02/17/17 09:45
10379430030	SB41-SS-45	Solid	02/14/17 11:00	02/17/17 09:45
10379430031	SSFD3	Solid	02/14/17 08:00	02/17/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10379430001	SB40-SS-05	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430002	SB40-SS-10	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430003	SB40-SS-15	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430004	SB40-SS-20	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430005	SB40-SS-25	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430006	SB40-SS-30	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430007	SB40-SS-35	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430008	SB40-SS-40	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430009	SB40-SS-45	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430010	SB40-SS-50	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430011	SB40-SS-55	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430012	SB40-SS-60	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430013	SB40-SS-65	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430014	SB40-SS-70	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430015	SB40-SS-75	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430016	SB40-SS-80	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430017	SB40-SS-85	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430018	SB40-SS-90	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M
10379430019	SB40-SS-95	ASTM D2974	JDL	1	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10379430020	SSFD1	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430021	SSFD2	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430022	SB41-SS-05	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430023	SB41-SS-10	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430024	SB41-SS-15	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430025	SB41-SS-20	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430026	SB41-SS-25	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430027	SB41-SS-30	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430028	SB41-SS-35	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430029	SB41-SS-40	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430030	SB41-SS-45	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
10379430031	SSFD3	EPA 8260B	CD2	51	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	51	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10379430001	SB40-SS-05					
ASTM D2974	Percent Moisture	15.7	%	0.10	02/21/17 11:52	
10379430002	SB40-SS-10					
ASTM D2974	Percent Moisture	17.4	%	0.10	02/21/17 11:52	
10379430003	SB40-SS-15					
ASTM D2974	Percent Moisture	35.8	%	0.10	02/21/17 11:53	
10379430004	SB40-SS-20					
ASTM D2974	Percent Moisture	33.5	%	0.10	02/21/17 11:53	
10379430005	SB40-SS-25					
ASTM D2974	Percent Moisture	34.3	%	0.10	02/21/17 11:53	
10379430006	SB40-SS-30					
ASTM D2974	Percent Moisture	12.0	%	0.10	02/21/17 11:54	
10379430007	SB40-SS-35					
ASTM D2974	Percent Moisture	11.3	%	0.10	02/21/17 11:54	
10379430008	SB40-SS-40					
ASTM D2974	Percent Moisture	23.0	%	0.10	02/21/17 11:54	
10379430009	SB40-SS-45					
ASTM D2974	Percent Moisture	30.7	%	0.10	02/21/17 11:54	
10379430010	SB40-SS-50					
ASTM D2974	Percent Moisture	30.4	%	0.10	02/21/17 11:55	
10379430011	SB40-SS-55					
ASTM D2974	Percent Moisture	32.9	%	0.10	02/21/17 11:55	
10379430012	SB40-SS-60					
ASTM D2974	Percent Moisture	28.5	%	0.10	02/21/17 11:56	
10379430013	SB40-SS-65					
ASTM D2974	Percent Moisture	26.5	%	0.10	02/21/17 13:15	
10379430014	SB40-SS-70					
ASTM D2974	Percent Moisture	34.3	%	0.10	02/21/17 13:15	
10379430015	SB40-SS-75					
ASTM D2974	Percent Moisture	15.2	%	0.10	02/21/17 13:16	
10379430016	SB40-SS-80					
ASTM D2974	Percent Moisture	16.5	%	0.10	02/21/17 13:16	
10379430017	SB40-SS-85					
ASTM D2974	Percent Moisture	19.6	%	0.10	02/21/17 13:16	
10379430018	SB40-SS-90					
ASTM D2974	Percent Moisture	18.4	%	0.10	02/21/17 13:17	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10379430019	SB40-SS-95					
ASTM D2974	Percent Moisture	20.7	%	0.10	02/21/17 13:17	
10379430020	SSFD1					
ASTM D2974	Percent Moisture	28.1	%	0.10	02/21/17 13:17	
10379430021	SSFD2					
ASTM D2974	Percent Moisture	16.1	%	0.10	02/21/17 13:18	
10379430022	SB41-SS-05					
ASTM D2974	Percent Moisture	14.1	%	0.10	02/21/17 13:18	
10379430023	SB41-SS-10					
ASTM D2974	Percent Moisture	12.5	%	0.10	02/21/17 13:18	
10379430024	SB41-SS-15					
ASTM D2974	Percent Moisture	27.6	%	0.10	02/21/17 13:18	
10379430025	SB41-SS-20					
ASTM D2974	Percent Moisture	37.2	%	0.10	02/21/17 13:19	
10379430026	SB41-SS-25					
ASTM D2974	Percent Moisture	37.2	%	0.10	02/21/17 13:19	
10379430027	SB41-SS-30					
ASTM D2974	Percent Moisture	32.0	%	0.10	02/21/17 13:19	
10379430028	SB41-SS-35					
ASTM D2974	Percent Moisture	32.9	%	0.10	02/21/17 13:20	
10379430029	SB41-SS-40					
ASTM D2974	Percent Moisture	9.8	%	0.10	02/21/17 13:20	
10379430030	SB41-SS-45					
ASTM D2974	Percent Moisture	12.2	%	0.10	02/21/17 14:08	
10379430031	SSFD3					
ASTM D2974	Percent Moisture	33.7	%	0.10	02/21/17 14:09	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Date: February 23, 2017

SB40-SS-05 (Lab ID: 10379430001)

- MSV location 7-39

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Method: EPA 8260B

Description: 8260B MSV 5030 Med Level

Client: UPRR_CH2M Hill

Date: February 23, 2017

General Information:

31 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 460993

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2521167)
 - 1,2,4-Trichlorobenzene
 - Acetone
 - Carbon tetrachloride
 - Hexachloro-1,3-butadiene
 - Methylene Chloride
 - Vinyl acetate
 - cis-1,2-Dichloroethene

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Method: EPA 8260B

Description: 8260B MSV 5030 Med Level

Client: UPRR_CH2M Hill

Date: February 23, 2017

QC Batch: 460762

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10379430009

R1: RPD value was outside control limits.

- MSD (Lab ID: 2520076)
 - 1,1,1-Trichloroethane
 - 1,2-Dichloroethane
 - 2-Butanone (MEK)
 - 2-Hexanone
 - 4-Methyl-2-pentanone (MIBK)
 - Acetone
 - Benzene
 - Bromodichloromethane
 - Carbon tetrachloride
 - Chloroform
 - Methyl-tert-butyl ether
 - Methylene Chloride
 - Trichloroethene
 - Vinyl acetate
 - cis-1,3-Dichloropropene
 - trans-1,3-Dichloropropene

QC Batch: 460993

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10379430019

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2521168)
 - 2-Butanone (MEK)
 - 2-Hexanone
 - 4-Methyl-2-pentanone (MIBK)
 - cis-1,2-Dichloroethene
 - m&p-Xylene

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 460867

1M: Unable to achieve 1:1 ratio. No MeOH added.

- SB40-SS-85 (Lab ID: 10379430017)
 - 1,2-Dichloroethane-d4 (S)
- SB40-SS-90 (Lab ID: 10379430018)
 - 1,2-Dichloroethane-d4 (S)

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-05 **Lab ID: 10379430001** Collected: 02/13/17 10:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	15.7	%	0.10	0.10	1		02/21/17 11:52		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.1	ug/kg	60.1	25.1	1	02/21/17 16:12	02/22/17 00:13	71-55-6	
1,1,2,2-Tetrachloroethane	<13.4	ug/kg	60.1	13.4	1	02/21/17 16:12	02/22/17 00:13	79-34-5	
1,1,2-Trichloroethane	<13.0	ug/kg	60.1	13.0	1	02/21/17 16:12	02/22/17 00:13	79-00-5	
1,1,2-Trichlorotrifluoroethane	<43.3	ug/kg	241	43.3	1	02/21/17 16:12	02/22/17 00:13	76-13-1	
1,1-Dichloroethane	<23.3	ug/kg	60.1	23.3	1	02/21/17 16:12	02/22/17 00:13	75-34-3	
1,1-Dichloroethene	<15.3	ug/kg	60.1	15.3	1	02/21/17 16:12	02/22/17 00:13	75-35-4	
1,2,4-Trichlorobenzene	<18.5	ug/kg	60.1	18.5	1	02/21/17 16:12	02/22/17 00:13	120-82-1	
1,2,4-Trimethylbenzene	<13.2	ug/kg	60.1	13.2	1	02/21/17 16:12	02/22/17 00:13	95-63-6	
1,2-Dibromoethane (EDB)	<22.6	ug/kg	60.1	22.6	1	02/21/17 16:12	02/22/17 00:13	106-93-4	
1,2-Dichlorobenzene	<11.6	ug/kg	60.1	11.6	1	02/21/17 16:12	02/22/17 00:13	95-50-1	
1,2-Dichloroethane	<19.0	ug/kg	60.1	19.0	1	02/21/17 16:12	02/22/17 00:13	107-06-2	
1,3,5-Trimethylbenzene	<13.8	ug/kg	60.1	13.8	1	02/21/17 16:12	02/22/17 00:13	108-67-8	
1,3-Dichlorobenzene	<17.7	ug/kg	60.1	17.7	1	02/21/17 16:12	02/22/17 00:13	541-73-1	
1,4-Dichlorobenzene	<17.4	ug/kg	60.1	17.4	1	02/21/17 16:12	02/22/17 00:13	106-46-7	
2-Butanone (MEK)	<79.4	ug/kg	301	79.4	1	02/21/17 16:12	02/22/17 00:13	78-93-3	
2-Hexanone	<70.8	ug/kg	301	70.8	1	02/21/17 16:12	02/22/17 00:13	591-78-6	
4-Methyl-2-pentanone (MIBK)	<39.8	ug/kg	301	39.8	1	02/21/17 16:12	02/22/17 00:13	108-10-1	
Acetone	<395	ug/kg	1200	395	1	02/21/17 16:12	02/22/17 00:13	67-64-1	
Benzene	<5.2	ug/kg	24.1	5.2	1	02/21/17 16:12	02/22/17 00:13	71-43-2	
Bromodichloromethane	<16.8	ug/kg	60.1	16.8	1	02/21/17 16:12	02/22/17 00:13	75-27-4	
Bromoform	<51.8	ug/kg	241	51.8	1	02/21/17 16:12	02/22/17 00:13	75-25-2	
Bromomethane	<61.0	ug/kg	601	61.0	1	02/21/17 16:12	02/22/17 00:13	74-83-9	
Carbon tetrachloride	<18.9	ug/kg	60.1	18.9	1	02/21/17 16:12	02/22/17 00:13	56-23-5	
Chlorobenzene	<10.5	ug/kg	60.1	10.5	1	02/21/17 16:12	02/22/17 00:13	108-90-7	
Chloroethane	<95.0	ug/kg	601	95.0	1	02/21/17 16:12	02/22/17 00:13	75-00-3	
Chloroform	<29.2	ug/kg	60.1	29.2	1	02/21/17 16:12	02/22/17 00:13	67-66-3	
Chloromethane	<29.1	ug/kg	241	29.1	1	02/21/17 16:12	02/22/17 00:13	74-87-3	
Dibromochloromethane	<51.6	ug/kg	241	51.6	1	02/21/17 16:12	02/22/17 00:13	124-48-1	
Dichlorodifluoromethane	<18.4	ug/kg	241	18.4	1	02/21/17 16:12	02/22/17 00:13	75-71-8	
Ethylbenzene	<19.1	ug/kg	60.1	19.1	1	02/21/17 16:12	02/22/17 00:13	100-41-4	
Hexachloro-1,3-butadiene	<56.5	ug/kg	301	56.5	1	02/21/17 16:12	02/22/17 00:13	87-68-3	
Methyl-tert-butyl ether	<11.3	ug/kg	60.1	11.3	1	02/21/17 16:12	02/22/17 00:13	1634-04-4	
Methylene Chloride	<111	ug/kg	241	111	1	02/21/17 16:12	02/22/17 00:13	75-09-2	
Naphthalene	<14.6	ug/kg	241	14.6	1	02/21/17 16:12	02/22/17 00:13	91-20-3	
Styrene	<15.6	ug/kg	60.1	15.6	1	02/21/17 16:12	02/22/17 00:13	100-42-5	
Tetrachloroethene	<23.0	ug/kg	60.1	23.0	1	02/21/17 16:12	02/22/17 00:13	127-18-4	
Tetrahydrofuran	<298	ug/kg	2410	298	1	02/21/17 16:12	02/22/17 00:13	109-99-9	
Toluene	<19.1	ug/kg	60.1	19.1	1	02/21/17 16:12	02/22/17 00:13	108-88-3	
Trichloroethene	<17.2	ug/kg	60.1	17.2	1	02/21/17 16:12	02/22/17 00:13	79-01-6	
Trichlorofluoromethane	<60.4	ug/kg	241	60.4	1	02/21/17 16:12	02/22/17 00:13	75-69-4	
Vinyl acetate	<63.6	ug/kg	601	63.6	1	02/21/17 16:12	02/22/17 00:13	108-05-4	
Vinyl chloride	<7.7	ug/kg	24.1	7.7	1	02/21/17 16:12	02/22/17 00:13	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-05 **Lab ID: 10379430001** Collected: 02/13/17 10:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.4	ug/kg	60.1	22.4	1	02/21/17 16:12	02/22/17 00:13	156-59-2	
cis-1,3-Dichloropropene	<27.4	ug/kg	60.1	27.4	1	02/21/17 16:12	02/22/17 00:13	10061-01-5	
m&p-Xylene	<30.2	ug/kg	120	30.2	1	02/21/17 16:12	02/22/17 00:13	179601-23-1	
o-Xylene	<17.9	ug/kg	60.1	17.9	1	02/21/17 16:12	02/22/17 00:13	95-47-6	
trans-1,2-Dichloroethene	<29.0	ug/kg	60.1	29.0	1	02/21/17 16:12	02/22/17 00:13	156-60-5	
trans-1,3-Dichloropropene	<20.4	ug/kg	241	20.4	1	02/21/17 16:12	02/22/17 00:13	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/22/17 00:13	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1	02/21/17 16:12	02/22/17 00:13	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	02/21/17 16:12	02/22/17 00:13	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-10 **Lab ID: 10379430002** Collected: 02/13/17 10:15 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	17.4	%	0.10	0.10	1		02/21/17 11:52		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.1	ug/kg	60.0	25.1	1	02/20/17 08:41	02/20/17 22:06	71-55-6	
1,1,2,2-Tetrachloroethane	<13.3	ug/kg	60.0	13.3	1	02/20/17 08:41	02/20/17 22:06	79-34-5	
1,1,2-Trichloroethane	<13.0	ug/kg	60.0	13.0	1	02/20/17 08:41	02/20/17 22:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<43.2	ug/kg	240	43.2	1	02/20/17 08:41	02/20/17 22:06	76-13-1	
1,1-Dichloroethane	<23.3	ug/kg	60.0	23.3	1	02/20/17 08:41	02/20/17 22:06	75-34-3	
1,1-Dichloroethene	<15.2	ug/kg	60.0	15.2	1	02/20/17 08:41	02/20/17 22:06	75-35-4	
1,2,4-Trichlorobenzene	<18.5	ug/kg	60.0	18.5	1	02/20/17 08:41	02/20/17 22:06	120-82-1	
1,2,4-Trimethylbenzene	<13.2	ug/kg	60.0	13.2	1	02/20/17 08:41	02/20/17 22:06	95-63-6	
1,2-Dibromoethane (EDB)	<22.6	ug/kg	60.0	22.6	1	02/20/17 08:41	02/20/17 22:06	106-93-4	
1,2-Dichlorobenzene	<11.6	ug/kg	60.0	11.6	1	02/20/17 08:41	02/20/17 22:06	95-50-1	
1,2-Dichloroethane	<19.0	ug/kg	60.0	19.0	1	02/20/17 08:41	02/20/17 22:06	107-06-2	
1,3,5-Trimethylbenzene	<13.8	ug/kg	60.0	13.8	1	02/20/17 08:41	02/20/17 22:06	108-67-8	
1,3-Dichlorobenzene	<17.6	ug/kg	60.0	17.6	1	02/20/17 08:41	02/20/17 22:06	541-73-1	
1,4-Dichlorobenzene	<17.4	ug/kg	60.0	17.4	1	02/20/17 08:41	02/20/17 22:06	106-46-7	
2-Butanone (MEK)	<79.2	ug/kg	300	79.2	1	02/20/17 08:41	02/20/17 22:06	78-93-3	
2-Hexanone	<70.7	ug/kg	300	70.7	1	02/20/17 08:41	02/20/17 22:06	591-78-6	
4-Methyl-2-pentanone (MIBK)	<39.7	ug/kg	300	39.7	1	02/20/17 08:41	02/20/17 22:06	108-10-1	
Acetone	<394	ug/kg	1200	394	1	02/20/17 08:41	02/20/17 22:06	67-64-1	
Benzene	<5.2	ug/kg	24.0	5.2	1	02/20/17 08:41	02/20/17 22:06	71-43-2	
Bromodichloromethane	<16.8	ug/kg	60.0	16.8	1	02/20/17 08:41	02/20/17 22:06	75-27-4	
Bromoform	<51.7	ug/kg	240	51.7	1	02/20/17 08:41	02/20/17 22:06	75-25-2	
Bromomethane	<60.8	ug/kg	600	60.8	1	02/20/17 08:41	02/20/17 22:06	74-83-9	
Carbon tetrachloride	<18.8	ug/kg	60.0	18.8	1	02/20/17 08:41	02/20/17 22:06	56-23-5	
Chlorobenzene	<10.4	ug/kg	60.0	10.4	1	02/20/17 08:41	02/20/17 22:06	108-90-7	
Chloroethane	<94.8	ug/kg	600	94.8	1	02/20/17 08:41	02/20/17 22:06	75-00-3	
Chloroform	<29.2	ug/kg	60.0	29.2	1	02/20/17 08:41	02/20/17 22:06	67-66-3	
Chloromethane	<29.0	ug/kg	240	29.0	1	02/20/17 08:41	02/20/17 22:06	74-87-3	
Dibromochloromethane	<51.5	ug/kg	240	51.5	1	02/20/17 08:41	02/20/17 22:06	124-48-1	
Dichlorodifluoromethane	<18.4	ug/kg	240	18.4	1	02/20/17 08:41	02/20/17 22:06	75-71-8	
Ethylbenzene	<19.1	ug/kg	60.0	19.1	1	02/20/17 08:41	02/20/17 22:06	100-41-4	
Hexachloro-1,3-butadiene	<56.4	ug/kg	300	56.4	1	02/20/17 08:41	02/20/17 22:06	87-68-3	
Methyl-tert-butyl ether	<11.2	ug/kg	60.0	11.2	1	02/20/17 08:41	02/20/17 22:06	1634-04-4	
Methylene Chloride	<111	ug/kg	240	111	1	02/20/17 08:41	02/20/17 22:06	75-09-2	
Naphthalene	<14.5	ug/kg	240	14.5	1	02/20/17 08:41	02/20/17 22:06	91-20-3	
Styrene	<15.6	ug/kg	60.0	15.6	1	02/20/17 08:41	02/20/17 22:06	100-42-5	
Tetrachloroethene	<22.9	ug/kg	60.0	22.9	1	02/20/17 08:41	02/20/17 22:06	127-18-4	
Tetrahydrofuran	<298	ug/kg	2400	298	1	02/20/17 08:41	02/20/17 22:06	109-99-9	
Toluene	<19.1	ug/kg	60.0	19.1	1	02/20/17 08:41	02/20/17 22:06	108-88-3	
Trichloroethene	<17.2	ug/kg	60.0	17.2	1	02/20/17 08:41	02/20/17 22:06	79-01-6	
Trichlorofluoromethane	<60.2	ug/kg	240	60.2	1	02/20/17 08:41	02/20/17 22:06	75-69-4	
Vinyl acetate	<63.5	ug/kg	600	63.5	1	02/20/17 08:41	02/20/17 22:06	108-05-4	
Vinyl chloride	<7.7	ug/kg	24.0	7.7	1	02/20/17 08:41	02/20/17 22:06	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-10 **Lab ID: 10379430002** Collected: 02/13/17 10:15 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.3	ug/kg	60.0	22.3	1	02/20/17 08:41	02/20/17 22:06	156-59-2	
cis-1,3-Dichloropropene	<27.4	ug/kg	60.0	27.4	1	02/20/17 08:41	02/20/17 22:06	10061-01-5	
m&p-Xylene	<30.1	ug/kg	120	30.1	1	02/20/17 08:41	02/20/17 22:06	179601-23-1	
o-Xylene	<17.9	ug/kg	60.0	17.9	1	02/20/17 08:41	02/20/17 22:06	95-47-6	
trans-1,2-Dichloroethene	<28.9	ug/kg	60.0	28.9	1	02/20/17 08:41	02/20/17 22:06	156-60-5	
trans-1,3-Dichloropropene	<20.4	ug/kg	240	20.4	1	02/20/17 08:41	02/20/17 22:06	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-129		1	02/20/17 08:41	02/20/17 22:06	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	02/20/17 08:41	02/20/17 22:06	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/20/17 22:06	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-15** Lab ID: **10379430003** Collected: 02/13/17 10:20 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	35.8	%	0.10	0.10	1		02/21/17 11:53		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<32.9	ug/kg	78.7	32.9	1	02/20/17 08:41	02/21/17 02:16	71-55-6	
1,1,2,2-Tetrachloroethane	<17.5	ug/kg	78.7	17.5	1	02/20/17 08:41	02/21/17 02:16	79-34-5	
1,1,2-Trichloroethane	<17.0	ug/kg	78.7	17.0	1	02/20/17 08:41	02/21/17 02:16	79-00-5	
1,1,2-Trichlorotrifluoroethane	<56.7	ug/kg	315	56.7	1	02/20/17 08:41	02/21/17 02:16	76-13-1	
1,1-Dichloroethane	<30.5	ug/kg	78.7	30.5	1	02/20/17 08:41	02/21/17 02:16	75-34-3	
1,1-Dichloroethene	<20.0	ug/kg	78.7	20.0	1	02/20/17 08:41	02/21/17 02:16	75-35-4	
1,2,4-Trichlorobenzene	<24.2	ug/kg	78.7	24.2	1	02/20/17 08:41	02/21/17 02:16	120-82-1	
1,2,4-Trimethylbenzene	<17.3	ug/kg	78.7	17.3	1	02/20/17 08:41	02/21/17 02:16	95-63-6	
1,2-Dibromoethane (EDB)	<29.6	ug/kg	78.7	29.6	1	02/20/17 08:41	02/21/17 02:16	106-93-4	
1,2-Dichlorobenzene	<15.2	ug/kg	78.7	15.2	1	02/20/17 08:41	02/21/17 02:16	95-50-1	
1,2-Dichloroethane	<24.9	ug/kg	78.7	24.9	1	02/20/17 08:41	02/21/17 02:16	107-06-2	
1,3,5-Trimethylbenzene	<18.1	ug/kg	78.7	18.1	1	02/20/17 08:41	02/21/17 02:16	108-67-8	
1,3-Dichlorobenzene	<23.1	ug/kg	78.7	23.1	1	02/20/17 08:41	02/21/17 02:16	541-73-1	
1,4-Dichlorobenzene	<22.8	ug/kg	78.7	22.8	1	02/20/17 08:41	02/21/17 02:16	106-46-7	
2-Butanone (MEK)	<104	ug/kg	393	104	1	02/20/17 08:41	02/21/17 02:16	78-93-3	
2-Hexanone	<92.7	ug/kg	393	92.7	1	02/20/17 08:41	02/21/17 02:16	591-78-6	
4-Methyl-2-pentanone (MIBK)	<52.1	ug/kg	393	52.1	1	02/20/17 08:41	02/21/17 02:16	108-10-1	
Acetone	<516	ug/kg	1570	516	1	02/20/17 08:41	02/21/17 02:16	67-64-1	
Benzene	<6.8	ug/kg	31.5	6.8	1	02/20/17 08:41	02/21/17 02:16	71-43-2	
Bromodichloromethane	<22.0	ug/kg	78.7	22.0	1	02/20/17 08:41	02/21/17 02:16	75-27-4	
Bromoform	<67.8	ug/kg	315	67.8	1	02/20/17 08:41	02/21/17 02:16	75-25-2	
Bromomethane	<79.8	ug/kg	787	79.8	1	02/20/17 08:41	02/21/17 02:16	74-83-9	
Carbon tetrachloride	<24.7	ug/kg	78.7	24.7	1	02/20/17 08:41	02/21/17 02:16	56-23-5	
Chlorobenzene	<13.7	ug/kg	78.7	13.7	1	02/20/17 08:41	02/21/17 02:16	108-90-7	
Chloroethane	<124	ug/kg	787	124	1	02/20/17 08:41	02/21/17 02:16	75-00-3	
Chloroform	<38.2	ug/kg	78.7	38.2	1	02/20/17 08:41	02/21/17 02:16	67-66-3	
Chloromethane	<38.1	ug/kg	315	38.1	1	02/20/17 08:41	02/21/17 02:16	74-87-3	
Dibromochloromethane	<67.5	ug/kg	315	67.5	1	02/20/17 08:41	02/21/17 02:16	124-48-1	
Dichlorodifluoromethane	<24.1	ug/kg	315	24.1	1	02/20/17 08:41	02/21/17 02:16	75-71-8	
Ethylbenzene	<25.0	ug/kg	78.7	25.0	1	02/20/17 08:41	02/21/17 02:16	100-41-4	
Hexachloro-1,3-butadiene	<74.0	ug/kg	393	74.0	1	02/20/17 08:41	02/21/17 02:16	87-68-3	
Methyl-tert-butyl ether	<14.7	ug/kg	78.7	14.7	1	02/20/17 08:41	02/21/17 02:16	1634-04-4	
Methylene Chloride	<146	ug/kg	315	146	1	02/20/17 08:41	02/21/17 02:16	75-09-2	
Naphthalene	<19.0	ug/kg	315	19.0	1	02/20/17 08:41	02/21/17 02:16	91-20-3	
Styrene	<20.5	ug/kg	78.7	20.5	1	02/20/17 08:41	02/21/17 02:16	100-42-5	
Tetrachloroethene	<30.1	ug/kg	78.7	30.1	1	02/20/17 08:41	02/21/17 02:16	127-18-4	
Tetrahydrofuran	<390	ug/kg	3150	390	1	02/20/17 08:41	02/21/17 02:16	109-99-9	
Toluene	<25.0	ug/kg	78.7	25.0	1	02/20/17 08:41	02/21/17 02:16	108-88-3	
Trichloroethene	<22.5	ug/kg	78.7	22.5	1	02/20/17 08:41	02/21/17 02:16	79-01-6	
Trichlorofluoromethane	<79.0	ug/kg	315	79.0	1	02/20/17 08:41	02/21/17 02:16	75-69-4	
Vinyl acetate	<83.2	ug/kg	787	83.2	1	02/20/17 08:41	02/21/17 02:16	108-05-4	
Vinyl chloride	<10.1	ug/kg	31.5	10.1	1	02/20/17 08:41	02/21/17 02:16	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-15 **Lab ID: 10379430003** Collected: 02/13/17 10:20 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<29.3	ug/kg	78.7	29.3	1	02/20/17 08:41	02/21/17 02:16	156-59-2	
cis-1,3-Dichloropropene	<35.9	ug/kg	78.7	35.9	1	02/20/17 08:41	02/21/17 02:16	10061-01-5	
m&p-Xylene	<39.5	ug/kg	157	39.5	1	02/20/17 08:41	02/21/17 02:16	179601-23-1	
o-Xylene	<23.4	ug/kg	78.7	23.4	1	02/20/17 08:41	02/21/17 02:16	95-47-6	
trans-1,2-Dichloroethene	<37.9	ug/kg	78.7	37.9	1	02/20/17 08:41	02/21/17 02:16	156-60-5	
trans-1,3-Dichloropropene	<26.8	ug/kg	315	26.8	1	02/20/17 08:41	02/21/17 02:16	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-129		1	02/20/17 08:41	02/21/17 02:16	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	02/20/17 08:41	02/21/17 02:16	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/21/17 02:16	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-20 **Lab ID: 10379430004** Collected: 02/13/17 10:35 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	33.5	%	0.10	0.10	1		02/21/17 11:53		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<28.6	ug/kg	68.5	28.6	1	02/20/17 08:41	02/20/17 22:24	71-55-6	
1,1,2,2-Tetrachloroethane	<15.2	ug/kg	68.5	15.2	1	02/20/17 08:41	02/20/17 22:24	79-34-5	
1,1,2-Trichloroethane	<14.8	ug/kg	68.5	14.8	1	02/20/17 08:41	02/20/17 22:24	79-00-5	
1,1,2-Trichlorotrifluoroethane	<49.3	ug/kg	274	49.3	1	02/20/17 08:41	02/20/17 22:24	76-13-1	
1,1-Dichloroethane	<26.6	ug/kg	68.5	26.6	1	02/20/17 08:41	02/20/17 22:24	75-34-3	
1,1-Dichloroethene	<17.4	ug/kg	68.5	17.4	1	02/20/17 08:41	02/20/17 22:24	75-35-4	
1,2,4-Trichlorobenzene	<21.1	ug/kg	68.5	21.1	1	02/20/17 08:41	02/20/17 22:24	120-82-1	
1,2,4-Trimethylbenzene	<15.1	ug/kg	68.5	15.1	1	02/20/17 08:41	02/20/17 22:24	95-63-6	
1,2-Dibromoethane (EDB)	<25.8	ug/kg	68.5	25.8	1	02/20/17 08:41	02/20/17 22:24	106-93-4	
1,2-Dichlorobenzene	<13.2	ug/kg	68.5	13.2	1	02/20/17 08:41	02/20/17 22:24	95-50-1	
1,2-Dichloroethane	<21.7	ug/kg	68.5	21.7	1	02/20/17 08:41	02/20/17 22:24	107-06-2	
1,3,5-Trimethylbenzene	<15.8	ug/kg	68.5	15.8	1	02/20/17 08:41	02/20/17 22:24	108-67-8	
1,3-Dichlorobenzene	<20.1	ug/kg	68.5	20.1	1	02/20/17 08:41	02/20/17 22:24	541-73-1	
1,4-Dichlorobenzene	<19.9	ug/kg	68.5	19.9	1	02/20/17 08:41	02/20/17 22:24	106-46-7	
2-Butanone (MEK)	<90.5	ug/kg	343	90.5	1	02/20/17 08:41	02/20/17 22:24	78-93-3	
2-Hexanone	<80.7	ug/kg	343	80.7	1	02/20/17 08:41	02/20/17 22:24	591-78-6	
4-Methyl-2-pentanone (MIBK)	<45.4	ug/kg	343	45.4	1	02/20/17 08:41	02/20/17 22:24	108-10-1	
Acetone	<450	ug/kg	1370	450	1	02/20/17 08:41	02/20/17 22:24	67-64-1	
Benzene	<5.9	ug/kg	27.4	5.9	1	02/20/17 08:41	02/20/17 22:24	71-43-2	
Bromodichloromethane	<19.2	ug/kg	68.5	19.2	1	02/20/17 08:41	02/20/17 22:24	75-27-4	
Bromoform	<59.1	ug/kg	274	59.1	1	02/20/17 08:41	02/20/17 22:24	75-25-2	
Bromomethane	<69.5	ug/kg	685	69.5	1	02/20/17 08:41	02/20/17 22:24	74-83-9	
Carbon tetrachloride	<21.5	ug/kg	68.5	21.5	1	02/20/17 08:41	02/20/17 22:24	56-23-5	
Chlorobenzene	<11.9	ug/kg	68.5	11.9	1	02/20/17 08:41	02/20/17 22:24	108-90-7	
Chloroethane	<108	ug/kg	685	108	1	02/20/17 08:41	02/20/17 22:24	75-00-3	
Chloroform	<33.3	ug/kg	68.5	33.3	1	02/20/17 08:41	02/20/17 22:24	67-66-3	
Chloromethane	<33.2	ug/kg	274	33.2	1	02/20/17 08:41	02/20/17 22:24	74-87-3	
Dibromochloromethane	<58.8	ug/kg	274	58.8	1	02/20/17 08:41	02/20/17 22:24	124-48-1	
Dichlorodifluoromethane	<21.0	ug/kg	274	21.0	1	02/20/17 08:41	02/20/17 22:24	75-71-8	
Ethylbenzene	<21.8	ug/kg	68.5	21.8	1	02/20/17 08:41	02/20/17 22:24	100-41-4	
Hexachloro-1,3-butadiene	<64.4	ug/kg	343	64.4	1	02/20/17 08:41	02/20/17 22:24	87-68-3	
Methyl-tert-butyl ether	<12.8	ug/kg	68.5	12.8	1	02/20/17 08:41	02/20/17 22:24	1634-04-4	
Methylene Chloride	<127	ug/kg	274	127	1	02/20/17 08:41	02/20/17 22:24	75-09-2	
Naphthalene	<16.6	ug/kg	274	16.6	1	02/20/17 08:41	02/20/17 22:24	91-20-3	
Styrene	<17.8	ug/kg	68.5	17.8	1	02/20/17 08:41	02/20/17 22:24	100-42-5	
Tetrachloroethene	<26.2	ug/kg	68.5	26.2	1	02/20/17 08:41	02/20/17 22:24	127-18-4	
Tetrahydrofuran	<340	ug/kg	2740	340	1	02/20/17 08:41	02/20/17 22:24	109-99-9	
Toluene	<21.8	ug/kg	68.5	21.8	1	02/20/17 08:41	02/20/17 22:24	108-88-3	
Trichloroethene	<19.6	ug/kg	68.5	19.6	1	02/20/17 08:41	02/20/17 22:24	79-01-6	
Trichlorofluoromethane	<68.8	ug/kg	274	68.8	1	02/20/17 08:41	02/20/17 22:24	75-69-4	
Vinyl acetate	<72.5	ug/kg	685	72.5	1	02/20/17 08:41	02/20/17 22:24	108-05-4	
Vinyl chloride	<8.8	ug/kg	27.4	8.8	1	02/20/17 08:41	02/20/17 22:24	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-20 **Lab ID: 10379430004** Collected: 02/13/17 10:35 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.5	ug/kg	68.5	25.5	1	02/20/17 08:41	02/20/17 22:24	156-59-2	
cis-1,3-Dichloropropene	<31.2	ug/kg	68.5	31.2	1	02/20/17 08:41	02/20/17 22:24	10061-01-5	
m&p-Xylene	<34.4	ug/kg	137	34.4	1	02/20/17 08:41	02/20/17 22:24	179601-23-1	
o-Xylene	<20.4	ug/kg	68.5	20.4	1	02/20/17 08:41	02/20/17 22:24	95-47-6	
trans-1,2-Dichloroethene	<33.0	ug/kg	68.5	33.0	1	02/20/17 08:41	02/20/17 22:24	156-60-5	
trans-1,3-Dichloropropene	<23.3	ug/kg	274	23.3	1	02/20/17 08:41	02/20/17 22:24	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-129		1	02/20/17 08:41	02/20/17 22:24	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/20/17 08:41	02/20/17 22:24	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	02/20/17 08:41	02/20/17 22:24	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-25** Lab ID: **10379430005** Collected: 02/13/17 10:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	34.3	%	0.10	0.10	1		02/21/17 11:53		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<34.3	ug/kg	82.0	34.3	1	02/20/17 08:41	02/21/17 02:52	71-55-6	
1,1,2,2-Tetrachloroethane	<18.2	ug/kg	82.0	18.2	1	02/20/17 08:41	02/21/17 02:52	79-34-5	
1,1,2-Trichloroethane	<17.7	ug/kg	82.0	17.7	1	02/20/17 08:41	02/21/17 02:52	79-00-5	
1,1,2-Trichlorotrifluoroethane	<59.0	ug/kg	328	59.0	1	02/20/17 08:41	02/21/17 02:52	76-13-1	
1,1-Dichloroethane	<31.8	ug/kg	82.0	31.8	1	02/20/17 08:41	02/21/17 02:52	75-34-3	
1,1-Dichloroethene	<20.8	ug/kg	82.0	20.8	1	02/20/17 08:41	02/21/17 02:52	75-35-4	
1,2,4-Trichlorobenzene	<25.2	ug/kg	82.0	25.2	1	02/20/17 08:41	02/21/17 02:52	120-82-1	
1,2,4-Trimethylbenzene	<18.0	ug/kg	82.0	18.0	1	02/20/17 08:41	02/21/17 02:52	95-63-6	
1,2-Dibromoethane (EDB)	<30.8	ug/kg	82.0	30.8	1	02/20/17 08:41	02/21/17 02:52	106-93-4	
1,2-Dichlorobenzene	<15.8	ug/kg	82.0	15.8	1	02/20/17 08:41	02/21/17 02:52	95-50-1	
1,2-Dichloroethane	<25.9	ug/kg	82.0	25.9	1	02/20/17 08:41	02/21/17 02:52	107-06-2	
1,3,5-Trimethylbenzene	<18.8	ug/kg	82.0	18.8	1	02/20/17 08:41	02/21/17 02:52	108-67-8	
1,3-Dichlorobenzene	<24.1	ug/kg	82.0	24.1	1	02/20/17 08:41	02/21/17 02:52	541-73-1	
1,4-Dichlorobenzene	<23.8	ug/kg	82.0	23.8	1	02/20/17 08:41	02/21/17 02:52	106-46-7	
2-Butanone (MEK)	<108	ug/kg	410	108	1	02/20/17 08:41	02/21/17 02:52	78-93-3	
2-Hexanone	<96.5	ug/kg	410	96.5	1	02/20/17 08:41	02/21/17 02:52	591-78-6	
4-Methyl-2-pentanone (MIBK)	<54.3	ug/kg	410	54.3	1	02/20/17 08:41	02/21/17 02:52	108-10-1	
Acetone	<538	ug/kg	1640	538	1	02/20/17 08:41	02/21/17 02:52	67-64-1	
Benzene	<7.1	ug/kg	32.8	7.1	1	02/20/17 08:41	02/21/17 02:52	71-43-2	
Bromodichloromethane	<22.9	ug/kg	82.0	22.9	1	02/20/17 08:41	02/21/17 02:52	75-27-4	
Bromoform	<70.6	ug/kg	328	70.6	1	02/20/17 08:41	02/21/17 02:52	75-25-2	
Bromomethane	<83.1	ug/kg	820	83.1	1	02/20/17 08:41	02/21/17 02:52	74-83-9	
Carbon tetrachloride	<25.7	ug/kg	82.0	25.7	1	02/20/17 08:41	02/21/17 02:52	56-23-5	
Chlorobenzene	<14.3	ug/kg	82.0	14.3	1	02/20/17 08:41	02/21/17 02:52	108-90-7	
Chloroethane	<129	ug/kg	820	129	1	02/20/17 08:41	02/21/17 02:52	75-00-3	
Chloroform	<39.8	ug/kg	82.0	39.8	1	02/20/17 08:41	02/21/17 02:52	67-66-3	
Chloromethane	<39.7	ug/kg	328	39.7	1	02/20/17 08:41	02/21/17 02:52	74-87-3	
Dibromochloromethane	<70.3	ug/kg	328	70.3	1	02/20/17 08:41	02/21/17 02:52	124-48-1	
Dichlorodifluoromethane	<25.1	ug/kg	328	25.1	1	02/20/17 08:41	02/21/17 02:52	75-71-8	
Ethylbenzene	<26.1	ug/kg	82.0	26.1	1	02/20/17 08:41	02/21/17 02:52	100-41-4	
Hexachloro-1,3-butadiene	<77.0	ug/kg	410	77.0	1	02/20/17 08:41	02/21/17 02:52	87-68-3	
Methyl-tert-butyl ether	<15.3	ug/kg	82.0	15.3	1	02/20/17 08:41	02/21/17 02:52	1634-04-4	
Methylene Chloride	<152	ug/kg	328	152	1	02/20/17 08:41	02/21/17 02:52	75-09-2	
Naphthalene	<19.8	ug/kg	328	19.8	1	02/20/17 08:41	02/21/17 02:52	91-20-3	
Styrene	<21.3	ug/kg	82.0	21.3	1	02/20/17 08:41	02/21/17 02:52	100-42-5	
Tetrachloroethene	<31.3	ug/kg	82.0	31.3	1	02/20/17 08:41	02/21/17 02:52	127-18-4	
Tetrahydrofuran	<407	ug/kg	3280	407	1	02/20/17 08:41	02/21/17 02:52	109-99-9	
Toluene	<26.1	ug/kg	82.0	26.1	1	02/20/17 08:41	02/21/17 02:52	108-88-3	
Trichloroethene	<23.4	ug/kg	82.0	23.4	1	02/20/17 08:41	02/21/17 02:52	79-01-6	
Trichlorofluoromethane	<82.3	ug/kg	328	82.3	1	02/20/17 08:41	02/21/17 02:52	75-69-4	
Vinyl acetate	<86.7	ug/kg	820	86.7	1	02/20/17 08:41	02/21/17 02:52	108-05-4	
Vinyl chloride	<10.5	ug/kg	32.8	10.5	1	02/20/17 08:41	02/21/17 02:52	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-25 **Lab ID: 10379430005** Collected: 02/13/17 10:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<30.5	ug/kg	82.0	30.5	1	02/20/17 08:41	02/21/17 02:52	156-59-2	
cis-1,3-Dichloropropene	<37.4	ug/kg	82.0	37.4	1	02/20/17 08:41	02/21/17 02:52	10061-01-5	
m&p-Xylene	<41.1	ug/kg	164	41.1	1	02/20/17 08:41	02/21/17 02:52	179601-23-1	
o-Xylene	<24.4	ug/kg	82.0	24.4	1	02/20/17 08:41	02/21/17 02:52	95-47-6	
trans-1,2-Dichloroethene	<39.5	ug/kg	82.0	39.5	1	02/20/17 08:41	02/21/17 02:52	156-60-5	
trans-1,3-Dichloropropene	<27.9	ug/kg	328	27.9	1	02/20/17 08:41	02/21/17 02:52	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-129		1	02/20/17 08:41	02/21/17 02:52	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/20/17 08:41	02/21/17 02:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	02/20/17 08:41	02/21/17 02:52	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-30 **Lab ID: 10379430006** Collected: 02/13/17 10:55 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	12.0	%	0.10	0.10	1		02/21/17 11:54		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.0	ug/kg	55.1	23.0	1	02/20/17 08:41	02/20/17 22:42	71-55-6	
1,1,2,2-Tetrachloroethane	<12.2	ug/kg	55.1	12.2	1	02/20/17 08:41	02/20/17 22:42	79-34-5	
1,1,2-Trichloroethane	<11.9	ug/kg	55.1	11.9	1	02/20/17 08:41	02/20/17 22:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	<39.7	ug/kg	220	39.7	1	02/20/17 08:41	02/20/17 22:42	76-13-1	
1,1-Dichloroethane	<21.4	ug/kg	55.1	21.4	1	02/20/17 08:41	02/20/17 22:42	75-34-3	
1,1-Dichloroethene	<14.0	ug/kg	55.1	14.0	1	02/20/17 08:41	02/20/17 22:42	75-35-4	
1,2,4-Trichlorobenzene	<17.0	ug/kg	55.1	17.0	1	02/20/17 08:41	02/20/17 22:42	120-82-1	
1,2,4-Trimethylbenzene	<12.1	ug/kg	55.1	12.1	1	02/20/17 08:41	02/20/17 22:42	95-63-6	
1,2-Dibromoethane (EDB)	<20.7	ug/kg	55.1	20.7	1	02/20/17 08:41	02/20/17 22:42	106-93-4	
1,2-Dichlorobenzene	<10.6	ug/kg	55.1	10.6	1	02/20/17 08:41	02/20/17 22:42	95-50-1	
1,2-Dichloroethane	<17.4	ug/kg	55.1	17.4	1	02/20/17 08:41	02/20/17 22:42	107-06-2	
1,3,5-Trimethylbenzene	<12.7	ug/kg	55.1	12.7	1	02/20/17 08:41	02/20/17 22:42	108-67-8	
1,3-Dichlorobenzene	<16.2	ug/kg	55.1	16.2	1	02/20/17 08:41	02/20/17 22:42	541-73-1	
1,4-Dichlorobenzene	<16.0	ug/kg	55.1	16.0	1	02/20/17 08:41	02/20/17 22:42	106-46-7	
2-Butanone (MEK)	<72.7	ug/kg	275	72.7	1	02/20/17 08:41	02/20/17 22:42	78-93-3	
2-Hexanone	<64.9	ug/kg	275	64.9	1	02/20/17 08:41	02/20/17 22:42	591-78-6	
4-Methyl-2-pentanone (MIBK)	<36.5	ug/kg	275	36.5	1	02/20/17 08:41	02/20/17 22:42	108-10-1	
Acetone	<361	ug/kg	1100	361	1	02/20/17 08:41	02/20/17 22:42	67-64-1	
Benzene	<4.8	ug/kg	22.0	4.8	1	02/20/17 08:41	02/20/17 22:42	71-43-2	
Bromodichloromethane	<15.4	ug/kg	55.1	15.4	1	02/20/17 08:41	02/20/17 22:42	75-27-4	
Bromoform	<47.5	ug/kg	220	47.5	1	02/20/17 08:41	02/20/17 22:42	75-25-2	
Bromomethane	<55.8	ug/kg	55.1	55.8	1	02/20/17 08:41	02/20/17 22:42	74-83-9	
Carbon tetrachloride	<17.3	ug/kg	55.1	17.3	1	02/20/17 08:41	02/20/17 22:42	56-23-5	
Chlorobenzene	<9.6	ug/kg	55.1	9.6	1	02/20/17 08:41	02/20/17 22:42	108-90-7	
Chloroethane	<87.0	ug/kg	55.1	87.0	1	02/20/17 08:41	02/20/17 22:42	75-00-3	
Chloroform	<26.8	ug/kg	55.1	26.8	1	02/20/17 08:41	02/20/17 22:42	67-66-3	
Chloromethane	<26.7	ug/kg	220	26.7	1	02/20/17 08:41	02/20/17 22:42	74-87-3	
Dibromochloromethane	<47.3	ug/kg	220	47.3	1	02/20/17 08:41	02/20/17 22:42	124-48-1	
Dichlorodifluoromethane	<16.9	ug/kg	220	16.9	1	02/20/17 08:41	02/20/17 22:42	75-71-8	
Ethylbenzene	<17.5	ug/kg	55.1	17.5	1	02/20/17 08:41	02/20/17 22:42	100-41-4	
Hexachloro-1,3-butadiene	<51.8	ug/kg	275	51.8	1	02/20/17 08:41	02/20/17 22:42	87-68-3	
Methyl-tert-butyl ether	<10.3	ug/kg	55.1	10.3	1	02/20/17 08:41	02/20/17 22:42	1634-04-4	
Methylene Chloride	<102	ug/kg	220	102	1	02/20/17 08:41	02/20/17 22:42	75-09-2	
Naphthalene	<13.3	ug/kg	220	13.3	1	02/20/17 08:41	02/20/17 22:42	91-20-3	
Styrene	<14.3	ug/kg	55.1	14.3	1	02/20/17 08:41	02/20/17 22:42	100-42-5	
Tetrachloroethene	<21.0	ug/kg	55.1	21.0	1	02/20/17 08:41	02/20/17 22:42	127-18-4	
Tetrahydrofuran	<273	ug/kg	2200	273	1	02/20/17 08:41	02/20/17 22:42	109-99-9	
Toluene	<17.5	ug/kg	55.1	17.5	1	02/20/17 08:41	02/20/17 22:42	108-88-3	
Trichloroethene	<15.8	ug/kg	55.1	15.8	1	02/20/17 08:41	02/20/17 22:42	79-01-6	
Trichlorofluoromethane	<55.3	ug/kg	220	55.3	1	02/20/17 08:41	02/20/17 22:42	75-69-4	
Vinyl acetate	<58.3	ug/kg	55.1	58.3	1	02/20/17 08:41	02/20/17 22:42	108-05-4	
Vinyl chloride	<7.1	ug/kg	22.0	7.1	1	02/20/17 08:41	02/20/17 22:42	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-30 **Lab ID: 10379430006** Collected: 02/13/17 10:55 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<20.5	ug/kg	55.1	20.5	1	02/20/17 08:41	02/20/17 22:42	156-59-2	
cis-1,3-Dichloropropene	<25.1	ug/kg	55.1	25.1	1	02/20/17 08:41	02/20/17 22:42	10061-01-5	
m&p-Xylene	<27.6	ug/kg	110	27.6	1	02/20/17 08:41	02/20/17 22:42	179601-23-1	
o-Xylene	<16.4	ug/kg	55.1	16.4	1	02/20/17 08:41	02/20/17 22:42	95-47-6	
trans-1,2-Dichloroethene	<26.5	ug/kg	55.1	26.5	1	02/20/17 08:41	02/20/17 22:42	156-60-5	
trans-1,3-Dichloropropene	<18.7	ug/kg	220	18.7	1	02/20/17 08:41	02/20/17 22:42	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	75-129		1	02/20/17 08:41	02/20/17 22:42	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1	02/20/17 08:41	02/20/17 22:42	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/20/17 08:41	02/20/17 22:42	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-35** Lab ID: **10379430007** Collected: 02/13/17 11:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	11.3	%	0.10	0.10	1		02/21/17 11:54		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.1	ug/kg	55.2	23.1	1	02/20/17 08:41	02/20/17 23:00	71-55-6	
1,1,2,2-Tetrachloroethane	<12.2	ug/kg	55.2	12.2	1	02/20/17 08:41	02/20/17 23:00	79-34-5	
1,1,2-Trichloroethane	<11.9	ug/kg	55.2	11.9	1	02/20/17 08:41	02/20/17 23:00	79-00-5	
1,1,2-Trichlorotrifluoroethane	<39.7	ug/kg	221	39.7	1	02/20/17 08:41	02/20/17 23:00	76-13-1	
1,1-Dichloroethane	<21.4	ug/kg	55.2	21.4	1	02/20/17 08:41	02/20/17 23:00	75-34-3	
1,1-Dichloroethene	<14.0	ug/kg	55.2	14.0	1	02/20/17 08:41	02/20/17 23:00	75-35-4	
1,2,4-Trichlorobenzene	<17.0	ug/kg	55.2	17.0	1	02/20/17 08:41	02/20/17 23:00	120-82-1	
1,2,4-Trimethylbenzene	<12.1	ug/kg	55.2	12.1	1	02/20/17 08:41	02/20/17 23:00	95-63-6	
1,2-Dibromoethane (EDB)	<20.7	ug/kg	55.2	20.7	1	02/20/17 08:41	02/20/17 23:00	106-93-4	
1,2-Dichlorobenzene	<10.7	ug/kg	55.2	10.7	1	02/20/17 08:41	02/20/17 23:00	95-50-1	
1,2-Dichloroethane	<17.4	ug/kg	55.2	17.4	1	02/20/17 08:41	02/20/17 23:00	107-06-2	
1,3,5-Trimethylbenzene	<12.7	ug/kg	55.2	12.7	1	02/20/17 08:41	02/20/17 23:00	108-67-8	
1,3-Dichlorobenzene	<16.2	ug/kg	55.2	16.2	1	02/20/17 08:41	02/20/17 23:00	541-73-1	
1,4-Dichlorobenzene	<16.0	ug/kg	55.2	16.0	1	02/20/17 08:41	02/20/17 23:00	106-46-7	
2-Butanone (MEK)	<72.8	ug/kg	276	72.8	1	02/20/17 08:41	02/20/17 23:00	78-93-3	
2-Hexanone	<65.0	ug/kg	276	65.0	1	02/20/17 08:41	02/20/17 23:00	591-78-6	
4-Methyl-2-pentanone (MIBK)	<36.5	ug/kg	276	36.5	1	02/20/17 08:41	02/20/17 23:00	108-10-1	
Acetone	<362	ug/kg	1100	362	1	02/20/17 08:41	02/20/17 23:00	67-64-1	
Benzene	<4.8	ug/kg	22.1	4.8	1	02/20/17 08:41	02/20/17 23:00	71-43-2	
Bromodichloromethane	<15.4	ug/kg	55.2	15.4	1	02/20/17 08:41	02/20/17 23:00	75-27-4	
Bromoform	<47.6	ug/kg	221	47.6	1	02/20/17 08:41	02/20/17 23:00	75-25-2	
Bromomethane	<55.9	ug/kg	552	55.9	1	02/20/17 08:41	02/20/17 23:00	74-83-9	
Carbon tetrachloride	<17.3	ug/kg	55.2	17.3	1	02/20/17 08:41	02/20/17 23:00	56-23-5	
Chlorobenzene	<9.6	ug/kg	55.2	9.6	1	02/20/17 08:41	02/20/17 23:00	108-90-7	
Chloroethane	<87.2	ug/kg	552	87.2	1	02/20/17 08:41	02/20/17 23:00	75-00-3	
Chloroform	<26.8	ug/kg	55.2	26.8	1	02/20/17 08:41	02/20/17 23:00	67-66-3	
Chloromethane	<26.7	ug/kg	221	26.7	1	02/20/17 08:41	02/20/17 23:00	74-87-3	
Dibromochloromethane	<47.3	ug/kg	221	47.3	1	02/20/17 08:41	02/20/17 23:00	124-48-1	
Dichlorodifluoromethane	<16.9	ug/kg	221	16.9	1	02/20/17 08:41	02/20/17 23:00	75-71-8	
Ethylbenzene	<17.5	ug/kg	55.2	17.5	1	02/20/17 08:41	02/20/17 23:00	100-41-4	
Hexachloro-1,3-butadiene	<51.9	ug/kg	276	51.9	1	02/20/17 08:41	02/20/17 23:00	87-68-3	
Methyl-tert-butyl ether	<10.3	ug/kg	55.2	10.3	1	02/20/17 08:41	02/20/17 23:00	1634-04-4	
Methylene Chloride	<102	ug/kg	221	102	1	02/20/17 08:41	02/20/17 23:00	75-09-2	
Naphthalene	<13.4	ug/kg	221	13.4	1	02/20/17 08:41	02/20/17 23:00	91-20-3	
Styrene	<14.3	ug/kg	55.2	14.3	1	02/20/17 08:41	02/20/17 23:00	100-42-5	
Tetrachloroethene	<21.1	ug/kg	55.2	21.1	1	02/20/17 08:41	02/20/17 23:00	127-18-4	
Tetrahydrofuran	<274	ug/kg	2210	274	1	02/20/17 08:41	02/20/17 23:00	109-99-9	
Toluene	<17.5	ug/kg	55.2	17.5	1	02/20/17 08:41	02/20/17 23:00	108-88-3	
Trichloroethene	<15.8	ug/kg	55.2	15.8	1	02/20/17 08:41	02/20/17 23:00	79-01-6	
Trichlorofluoromethane	<55.4	ug/kg	221	55.4	1	02/20/17 08:41	02/20/17 23:00	75-69-4	
Vinyl acetate	<58.4	ug/kg	552	58.4	1	02/20/17 08:41	02/20/17 23:00	108-05-4	
Vinyl chloride	<7.1	ug/kg	22.1	7.1	1	02/20/17 08:41	02/20/17 23:00	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-35 **Lab ID: 10379430007** Collected: 02/13/17 11:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<20.5	ug/kg	55.2	20.5	1	02/20/17 08:41	02/20/17 23:00	156-59-2	
cis-1,3-Dichloropropene	<25.2	ug/kg	55.2	25.2	1	02/20/17 08:41	02/20/17 23:00	10061-01-5	
m&p-Xylene	<27.7	ug/kg	110	27.7	1	02/20/17 08:41	02/20/17 23:00	179601-23-1	
o-Xylene	<16.4	ug/kg	55.2	16.4	1	02/20/17 08:41	02/20/17 23:00	95-47-6	
trans-1,2-Dichloroethene	<26.6	ug/kg	55.2	26.6	1	02/20/17 08:41	02/20/17 23:00	156-60-5	
trans-1,3-Dichloropropene	<18.8	ug/kg	221	18.8	1	02/20/17 08:41	02/20/17 23:00	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-129		1	02/20/17 08:41	02/20/17 23:00	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	02/20/17 08:41	02/20/17 23:00	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/20/17 08:41	02/20/17 23:00	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-40** Lab ID: **10379430008** Collected: 02/13/17 11:20 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	23.0	%	0.10	0.10	1		02/21/17 11:54		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.7	ug/kg	61.6	25.7	1	02/20/17 08:41	02/20/17 23:17	71-55-6	
1,1,2,2-Tetrachloroethane	<13.7	ug/kg	61.6	13.7	1	02/20/17 08:41	02/20/17 23:17	79-34-5	
1,1,2-Trichloroethane	<13.3	ug/kg	61.6	13.3	1	02/20/17 08:41	02/20/17 23:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.3	ug/kg	246	44.3	1	02/20/17 08:41	02/20/17 23:17	76-13-1	
1,1-Dichloroethane	<23.9	ug/kg	61.6	23.9	1	02/20/17 08:41	02/20/17 23:17	75-34-3	
1,1-Dichloroethene	<15.6	ug/kg	61.6	15.6	1	02/20/17 08:41	02/20/17 23:17	75-35-4	
1,2,4-Trichlorobenzene	<19.0	ug/kg	61.6	19.0	1	02/20/17 08:41	02/20/17 23:17	120-82-1	
1,2,4-Trimethylbenzene	<13.5	ug/kg	61.6	13.5	1	02/20/17 08:41	02/20/17 23:17	95-63-6	
1,2-Dibromoethane (EDB)	<23.1	ug/kg	61.6	23.1	1	02/20/17 08:41	02/20/17 23:17	106-93-4	
1,2-Dichlorobenzene	<11.9	ug/kg	61.6	11.9	1	02/20/17 08:41	02/20/17 23:17	95-50-1	
1,2-Dichloroethane	<19.5	ug/kg	61.6	19.5	1	02/20/17 08:41	02/20/17 23:17	107-06-2	
1,3,5-Trimethylbenzene	<14.2	ug/kg	61.6	14.2	1	02/20/17 08:41	02/20/17 23:17	108-67-8	
1,3-Dichlorobenzene	<18.1	ug/kg	61.6	18.1	1	02/20/17 08:41	02/20/17 23:17	541-73-1	
1,4-Dichlorobenzene	<17.9	ug/kg	61.6	17.9	1	02/20/17 08:41	02/20/17 23:17	106-46-7	
2-Butanone (MEK)	<81.3	ug/kg	308	81.3	1	02/20/17 08:41	02/20/17 23:17	78-93-3	
2-Hexanone	<72.5	ug/kg	308	72.5	1	02/20/17 08:41	02/20/17 23:17	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.8	ug/kg	308	40.8	1	02/20/17 08:41	02/20/17 23:17	108-10-1	
Acetone	<404	ug/kg	1230	404	1	02/20/17 08:41	02/20/17 23:17	67-64-1	
Benzene	<5.3	ug/kg	24.6	5.3	1	02/20/17 08:41	02/20/17 23:17	71-43-2	
Bromodichloromethane	<17.2	ug/kg	61.6	17.2	1	02/20/17 08:41	02/20/17 23:17	75-27-4	
Bromoform	<53.1	ug/kg	246	53.1	1	02/20/17 08:41	02/20/17 23:17	75-25-2	
Bromomethane	<62.4	ug/kg	616	62.4	1	02/20/17 08:41	02/20/17 23:17	74-83-9	
Carbon tetrachloride	<19.3	ug/kg	61.6	19.3	1	02/20/17 08:41	02/20/17 23:17	56-23-5	
Chlorobenzene	<10.7	ug/kg	61.6	10.7	1	02/20/17 08:41	02/20/17 23:17	108-90-7	
Chloroethane	<97.3	ug/kg	616	97.3	1	02/20/17 08:41	02/20/17 23:17	75-00-3	
Chloroform	<29.9	ug/kg	61.6	29.9	1	02/20/17 08:41	02/20/17 23:17	67-66-3	
Chloromethane	<29.8	ug/kg	246	29.8	1	02/20/17 08:41	02/20/17 23:17	74-87-3	
Dibromochloromethane	<52.8	ug/kg	246	52.8	1	02/20/17 08:41	02/20/17 23:17	124-48-1	
Dichlorodifluoromethane	<18.8	ug/kg	246	18.8	1	02/20/17 08:41	02/20/17 23:17	75-71-8	
Ethylbenzene	<19.6	ug/kg	61.6	19.6	1	02/20/17 08:41	02/20/17 23:17	100-41-4	
Hexachloro-1,3-butadiene	<57.9	ug/kg	308	57.9	1	02/20/17 08:41	02/20/17 23:17	87-68-3	
Methyl-tert-butyl ether	<11.5	ug/kg	61.6	11.5	1	02/20/17 08:41	02/20/17 23:17	1634-04-4	
Methylene Chloride	<114	ug/kg	246	114	1	02/20/17 08:41	02/20/17 23:17	75-09-2	
Naphthalene	<14.9	ug/kg	246	14.9	1	02/20/17 08:41	02/20/17 23:17	91-20-3	
Styrene	<16.0	ug/kg	61.6	16.0	1	02/20/17 08:41	02/20/17 23:17	100-42-5	
Tetrachloroethene	<23.5	ug/kg	61.6	23.5	1	02/20/17 08:41	02/20/17 23:17	127-18-4	
Tetrahydrofuran	<305	ug/kg	2460	305	1	02/20/17 08:41	02/20/17 23:17	109-99-9	
Toluene	<19.6	ug/kg	61.6	19.6	1	02/20/17 08:41	02/20/17 23:17	108-88-3	
Trichloroethene	<17.6	ug/kg	61.6	17.6	1	02/20/17 08:41	02/20/17 23:17	79-01-6	
Trichlorofluoromethane	<61.8	ug/kg	246	61.8	1	02/20/17 08:41	02/20/17 23:17	75-69-4	
Vinyl acetate	<65.1	ug/kg	616	65.1	1	02/20/17 08:41	02/20/17 23:17	108-05-4	
Vinyl chloride	<7.9	ug/kg	24.6	7.9	1	02/20/17 08:41	02/20/17 23:17	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-40 **Lab ID: 10379430008** Collected: 02/13/17 11:20 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.9	ug/kg	61.6	22.9	1	02/20/17 08:41	02/20/17 23:17	156-59-2	
cis-1,3-Dichloropropene	<28.1	ug/kg	61.6	28.1	1	02/20/17 08:41	02/20/17 23:17	10061-01-5	
m&p-Xylene	<30.9	ug/kg	123	30.9	1	02/20/17 08:41	02/20/17 23:17	179601-23-1	
o-Xylene	<18.3	ug/kg	61.6	18.3	1	02/20/17 08:41	02/20/17 23:17	95-47-6	
trans-1,2-Dichloroethene	<29.7	ug/kg	61.6	29.7	1	02/20/17 08:41	02/20/17 23:17	156-60-5	
trans-1,3-Dichloropropene	<20.9	ug/kg	246	20.9	1	02/20/17 08:41	02/20/17 23:17	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-129		1	02/20/17 08:41	02/20/17 23:17	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	02/20/17 08:41	02/20/17 23:17	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/20/17 23:17	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-45** Lab ID: **10379430009** Collected: 02/13/17 11:25 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	30.7	%	0.10	0.10	1		02/21/17 11:54		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<30.6	ug/kg	73.3	30.6	1	02/20/17 08:41	02/20/17 23:35	71-55-6	R1
1,1,2,2-Tetrachloroethane	<16.3	ug/kg	73.3	16.3	1	02/20/17 08:41	02/20/17 23:35	79-34-5	
1,1,2-Trichloroethane	<15.8	ug/kg	73.3	15.8	1	02/20/17 08:41	02/20/17 23:35	79-00-5	
1,1,2-Trichlorotrifluoroethane	<52.8	ug/kg	293	52.8	1	02/20/17 08:41	02/20/17 23:35	76-13-1	
1,1-Dichloroethane	<28.4	ug/kg	73.3	28.4	1	02/20/17 08:41	02/20/17 23:35	75-34-3	
1,1-Dichloroethene	<18.6	ug/kg	73.3	18.6	1	02/20/17 08:41	02/20/17 23:35	75-35-4	
1,2,4-Trichlorobenzene	<22.6	ug/kg	73.3	22.6	1	02/20/17 08:41	02/20/17 23:35	120-82-1	
1,2,4-Trimethylbenzene	<16.1	ug/kg	73.3	16.1	1	02/20/17 08:41	02/20/17 23:35	95-63-6	
1,2-Dibromoethane (EDB)	<27.6	ug/kg	73.3	27.6	1	02/20/17 08:41	02/20/17 23:35	106-93-4	
1,2-Dichlorobenzene	<14.2	ug/kg	73.3	14.2	1	02/20/17 08:41	02/20/17 23:35	95-50-1	
1,2-Dichloroethane	<23.2	ug/kg	73.3	23.2	1	02/20/17 08:41	02/20/17 23:35	107-06-2	R1
1,3,5-Trimethylbenzene	<16.9	ug/kg	73.3	16.9	1	02/20/17 08:41	02/20/17 23:35	108-67-8	
1,3-Dichlorobenzene	<21.5	ug/kg	73.3	21.5	1	02/20/17 08:41	02/20/17 23:35	541-73-1	
1,4-Dichlorobenzene	<21.3	ug/kg	73.3	21.3	1	02/20/17 08:41	02/20/17 23:35	106-46-7	
2-Butanone (MEK)	<96.7	ug/kg	366	96.7	1	02/20/17 08:41	02/20/17 23:35	78-93-3	R1
2-Hexanone	<86.3	ug/kg	366	86.3	1	02/20/17 08:41	02/20/17 23:35	591-78-6	R1
4-Methyl-2-pentanone (MIBK)	<48.5	ug/kg	366	48.5	1	02/20/17 08:41	02/20/17 23:35	108-10-1	R1
Acetone	<481	ug/kg	1470	481	1	02/20/17 08:41	02/20/17 23:35	67-64-1	R1
Benzene	<6.3	ug/kg	29.3	6.3	1	02/20/17 08:41	02/20/17 23:35	71-43-2	R1
Bromodichloromethane	<20.5	ug/kg	73.3	20.5	1	02/20/17 08:41	02/20/17 23:35	75-27-4	R1
Bromoform	<63.2	ug/kg	293	63.2	1	02/20/17 08:41	02/20/17 23:35	75-25-2	
Bromomethane	<74.3	ug/kg	733	74.3	1	02/20/17 08:41	02/20/17 23:35	74-83-9	
Carbon tetrachloride	<23.0	ug/kg	73.3	23.0	1	02/20/17 08:41	02/20/17 23:35	56-23-5	R1
Chlorobenzene	<12.8	ug/kg	73.3	12.8	1	02/20/17 08:41	02/20/17 23:35	108-90-7	
Chloroethane	<116	ug/kg	733	116	1	02/20/17 08:41	02/20/17 23:35	75-00-3	
Chloroform	<35.6	ug/kg	73.3	35.6	1	02/20/17 08:41	02/20/17 23:35	67-66-3	R1
Chloromethane	<35.5	ug/kg	293	35.5	1	02/20/17 08:41	02/20/17 23:35	74-87-3	
Dibromochloromethane	<62.9	ug/kg	293	62.9	1	02/20/17 08:41	02/20/17 23:35	124-48-1	
Dichlorodifluoromethane	<22.4	ug/kg	293	22.4	1	02/20/17 08:41	02/20/17 23:35	75-71-8	
Ethylbenzene	<23.3	ug/kg	73.3	23.3	1	02/20/17 08:41	02/20/17 23:35	100-41-4	
Hexachloro-1,3-butadiene	<68.9	ug/kg	366	68.9	1	02/20/17 08:41	02/20/17 23:35	87-68-3	
Methyl-tert-butyl ether	<13.7	ug/kg	73.3	13.7	1	02/20/17 08:41	02/20/17 23:35	1634-04-4	R1
Methylene Chloride	<136	ug/kg	293	136	1	02/20/17 08:41	02/20/17 23:35	75-09-2	R1
Naphthalene	<17.7	ug/kg	293	17.7	1	02/20/17 08:41	02/20/17 23:35	91-20-3	
Styrene	<19.1	ug/kg	73.3	19.1	1	02/20/17 08:41	02/20/17 23:35	100-42-5	
Tetrachloroethene	<28.0	ug/kg	73.3	28.0	1	02/20/17 08:41	02/20/17 23:35	127-18-4	
Tetrahydrofuran	<363	ug/kg	2930	363	1	02/20/17 08:41	02/20/17 23:35	109-99-9	
Toluene	<23.3	ug/kg	73.3	23.3	1	02/20/17 08:41	02/20/17 23:35	108-88-3	
Trichloroethene	<21.0	ug/kg	73.3	21.0	1	02/20/17 08:41	02/20/17 23:35	79-01-6	R1
Trichlorofluoromethane	<73.6	ug/kg	293	73.6	1	02/20/17 08:41	02/20/17 23:35	75-69-4	
Vinyl acetate	<77.5	ug/kg	733	77.5	1	02/20/17 08:41	02/20/17 23:35	108-05-4	R1
Vinyl chloride	<9.4	ug/kg	29.3	9.4	1	02/20/17 08:41	02/20/17 23:35	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-45 **Lab ID: 10379430009** Collected: 02/13/17 11:25 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<27.3	ug/kg	73.3	27.3	1	02/20/17 08:41	02/20/17 23:35	156-59-2	
cis-1,3-Dichloropropene	<33.4	ug/kg	73.3	33.4	1	02/20/17 08:41	02/20/17 23:35	10061-01-5	R1
m&p-Xylene	<36.8	ug/kg	147	36.8	1	02/20/17 08:41	02/20/17 23:35	179601-23-1	
o-Xylene	<21.8	ug/kg	73.3	21.8	1	02/20/17 08:41	02/20/17 23:35	95-47-6	
trans-1,2-Dichloroethene	<35.3	ug/kg	73.3	35.3	1	02/20/17 08:41	02/20/17 23:35	156-60-5	
trans-1,3-Dichloropropene	<24.9	ug/kg	293	24.9	1	02/20/17 08:41	02/20/17 23:35	10061-02-6	R1
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-129		1	02/20/17 08:41	02/20/17 23:35	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	02/20/17 08:41	02/20/17 23:35	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1	02/20/17 08:41	02/20/17 23:35	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-50 **Lab ID: 10379430010** Collected: 02/13/17 11:45 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	30.4	%	0.10	0.10	1		02/21/17 11:55		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<30.3	ug/kg	72.6	30.3	1	02/20/17 08:41	02/20/17 23:53	71-55-6	
1,1,2,2-Tetrachloroethane	<16.1	ug/kg	72.6	16.1	1	02/20/17 08:41	02/20/17 23:53	79-34-5	
1,1,2-Trichloroethane	<15.7	ug/kg	72.6	15.7	1	02/20/17 08:41	02/20/17 23:53	79-00-5	
1,1,2-Trichlorotrifluoroethane	<52.3	ug/kg	290	52.3	1	02/20/17 08:41	02/20/17 23:53	76-13-1	
1,1-Dichloroethane	<28.2	ug/kg	72.6	28.2	1	02/20/17 08:41	02/20/17 23:53	75-34-3	
1,1-Dichloroethene	<18.4	ug/kg	72.6	18.4	1	02/20/17 08:41	02/20/17 23:53	75-35-4	
1,2,4-Trichlorobenzene	<22.4	ug/kg	72.6	22.4	1	02/20/17 08:41	02/20/17 23:53	120-82-1	
1,2,4-Trimethylbenzene	<16.0	ug/kg	72.6	16.0	1	02/20/17 08:41	02/20/17 23:53	95-63-6	
1,2-Dibromoethane (EDB)	<27.3	ug/kg	72.6	27.3	1	02/20/17 08:41	02/20/17 23:53	106-93-4	
1,2-Dichlorobenzene	<14.0	ug/kg	72.6	14.0	1	02/20/17 08:41	02/20/17 23:53	95-50-1	
1,2-Dichloroethane	<22.9	ug/kg	72.6	22.9	1	02/20/17 08:41	02/20/17 23:53	107-06-2	
1,3,5-Trimethylbenzene	<16.7	ug/kg	72.6	16.7	1	02/20/17 08:41	02/20/17 23:53	108-67-8	
1,3-Dichlorobenzene	<21.3	ug/kg	72.6	21.3	1	02/20/17 08:41	02/20/17 23:53	541-73-1	
1,4-Dichlorobenzene	<21.1	ug/kg	72.6	21.1	1	02/20/17 08:41	02/20/17 23:53	106-46-7	
2-Butanone (MEK)	<95.8	ug/kg	363	95.8	1	02/20/17 08:41	02/20/17 23:53	78-93-3	
2-Hexanone	<85.5	ug/kg	363	85.5	1	02/20/17 08:41	02/20/17 23:53	591-78-6	
4-Methyl-2-pentanone (MIBK)	<48.1	ug/kg	363	48.1	1	02/20/17 08:41	02/20/17 23:53	108-10-1	
Acetone	<476	ug/kg	1450	476	1	02/20/17 08:41	02/20/17 23:53	67-64-1	
Benzene	<6.3	ug/kg	29.0	6.3	1	02/20/17 08:41	02/20/17 23:53	71-43-2	
Bromodichloromethane	<20.3	ug/kg	72.6	20.3	1	02/20/17 08:41	02/20/17 23:53	75-27-4	
Bromoform	<62.6	ug/kg	290	62.6	1	02/20/17 08:41	02/20/17 23:53	75-25-2	
Bromomethane	<73.6	ug/kg	726	73.6	1	02/20/17 08:41	02/20/17 23:53	74-83-9	
Carbon tetrachloride	<22.8	ug/kg	72.6	22.8	1	02/20/17 08:41	02/20/17 23:53	56-23-5	
Chlorobenzene	<12.6	ug/kg	72.6	12.6	1	02/20/17 08:41	02/20/17 23:53	108-90-7	
Chloroethane	<115	ug/kg	726	115	1	02/20/17 08:41	02/20/17 23:53	75-00-3	
Chloroform	<35.3	ug/kg	72.6	35.3	1	02/20/17 08:41	02/20/17 23:53	67-66-3	
Chloromethane	<35.1	ug/kg	290	35.1	1	02/20/17 08:41	02/20/17 23:53	74-87-3	
Dibromochloromethane	<62.3	ug/kg	290	62.3	1	02/20/17 08:41	02/20/17 23:53	124-48-1	
Dichlorodifluoromethane	<22.2	ug/kg	290	22.2	1	02/20/17 08:41	02/20/17 23:53	75-71-8	
Ethylbenzene	<23.1	ug/kg	72.6	23.1	1	02/20/17 08:41	02/20/17 23:53	100-41-4	
Hexachloro-1,3-butadiene	<68.2	ug/kg	363	68.2	1	02/20/17 08:41	02/20/17 23:53	87-68-3	
Methyl-tert-butyl ether	<13.6	ug/kg	72.6	13.6	1	02/20/17 08:41	02/20/17 23:53	1634-04-4	
Methylene Chloride	<134	ug/kg	290	134	1	02/20/17 08:41	02/20/17 23:53	75-09-2	
Naphthalene	<17.6	ug/kg	290	17.6	1	02/20/17 08:41	02/20/17 23:53	91-20-3	
Styrene	<18.9	ug/kg	72.6	18.9	1	02/20/17 08:41	02/20/17 23:53	100-42-5	
Tetrachloroethene	<27.7	ug/kg	72.6	27.7	1	02/20/17 08:41	02/20/17 23:53	127-18-4	
Tetrahydrofuran	<360	ug/kg	2900	360	1	02/20/17 08:41	02/20/17 23:53	109-99-9	
Toluene	<23.1	ug/kg	72.6	23.1	1	02/20/17 08:41	02/20/17 23:53	108-88-3	
Trichloroethene	<20.8	ug/kg	72.6	20.8	1	02/20/17 08:41	02/20/17 23:53	79-01-6	
Trichlorofluoromethane	<72.9	ug/kg	290	72.9	1	02/20/17 08:41	02/20/17 23:53	75-69-4	
Vinyl acetate	<76.8	ug/kg	726	76.8	1	02/20/17 08:41	02/20/17 23:53	108-05-4	
Vinyl chloride	<9.3	ug/kg	29.0	9.3	1	02/20/17 08:41	02/20/17 23:53	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-50 **Lab ID: 10379430010** Collected: 02/13/17 11:45 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<27.0	ug/kg	72.6	27.0	1	02/20/17 08:41	02/20/17 23:53	156-59-2	
cis-1,3-Dichloropropene	<33.1	ug/kg	72.6	33.1	1	02/20/17 08:41	02/20/17 23:53	10061-01-5	
m&p-Xylene	<36.4	ug/kg	145	36.4	1	02/20/17 08:41	02/20/17 23:53	179601-23-1	
o-Xylene	<21.6	ug/kg	72.6	21.6	1	02/20/17 08:41	02/20/17 23:53	95-47-6	
trans-1,2-Dichloroethene	<35.0	ug/kg	72.6	35.0	1	02/20/17 08:41	02/20/17 23:53	156-60-5	
trans-1,3-Dichloropropene	<24.7	ug/kg	290	24.7	1	02/20/17 08:41	02/20/17 23:53	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-129		1	02/20/17 08:41	02/20/17 23:53	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/20/17 08:41	02/20/17 23:53	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/20/17 23:53	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-55 **Lab ID: 10379430011** Collected: 02/13/17 11:50 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.9	%	0.10	0.10	1		02/21/17 11:55		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<30.8	ug/kg	73.6	30.8	1	02/20/17 08:41	02/21/17 00:11	71-55-6	
1,1,2,2-Tetrachloroethane	<16.3	ug/kg	73.6	16.3	1	02/20/17 08:41	02/21/17 00:11	79-34-5	
1,1,2-Trichloroethane	<15.9	ug/kg	73.6	15.9	1	02/20/17 08:41	02/21/17 00:11	79-00-5	
1,1,2-Trichlorotrifluoroethane	<53.0	ug/kg	294	53.0	1	02/20/17 08:41	02/21/17 00:11	76-13-1	
1,1-Dichloroethane	<28.5	ug/kg	73.6	28.5	1	02/20/17 08:41	02/21/17 00:11	75-34-3	
1,1-Dichloroethene	<18.7	ug/kg	73.6	18.7	1	02/20/17 08:41	02/21/17 00:11	75-35-4	
1,2,4-Trichlorobenzene	<22.7	ug/kg	73.6	22.7	1	02/20/17 08:41	02/21/17 00:11	120-82-1	
1,2,4-Trimethylbenzene	<16.2	ug/kg	73.6	16.2	1	02/20/17 08:41	02/21/17 00:11	95-63-6	
1,2-Dibromoethane (EDB)	<27.7	ug/kg	73.6	27.7	1	02/20/17 08:41	02/21/17 00:11	106-93-4	
1,2-Dichlorobenzene	<14.2	ug/kg	73.6	14.2	1	02/20/17 08:41	02/21/17 00:11	95-50-1	
1,2-Dichloroethane	<23.3	ug/kg	73.6	23.3	1	02/20/17 08:41	02/21/17 00:11	107-06-2	
1,3,5-Trimethylbenzene	<16.9	ug/kg	73.6	16.9	1	02/20/17 08:41	02/21/17 00:11	108-67-8	
1,3-Dichlorobenzene	<21.6	ug/kg	73.6	21.6	1	02/20/17 08:41	02/21/17 00:11	541-73-1	
1,4-Dichlorobenzene	<21.3	ug/kg	73.6	21.3	1	02/20/17 08:41	02/21/17 00:11	106-46-7	
2-Butanone (MEK)	<97.1	ug/kg	368	97.1	1	02/20/17 08:41	02/21/17 00:11	78-93-3	
2-Hexanone	<86.7	ug/kg	368	86.7	1	02/20/17 08:41	02/21/17 00:11	591-78-6	
4-Methyl-2-pentanone (MIBK)	<48.7	ug/kg	368	48.7	1	02/20/17 08:41	02/21/17 00:11	108-10-1	
Acetone	<483	ug/kg	1470	483	1	02/20/17 08:41	02/21/17 00:11	67-64-1	
Benzene	<6.4	ug/kg	29.4	6.4	1	02/20/17 08:41	02/21/17 00:11	71-43-2	
Bromodichloromethane	<20.6	ug/kg	73.6	20.6	1	02/20/17 08:41	02/21/17 00:11	75-27-4	
Bromoform	<63.4	ug/kg	294	63.4	1	02/20/17 08:41	02/21/17 00:11	75-25-2	
Bromomethane	<74.6	ug/kg	736	74.6	1	02/20/17 08:41	02/21/17 00:11	74-83-9	
Carbon tetrachloride	<23.1	ug/kg	73.6	23.1	1	02/20/17 08:41	02/21/17 00:11	56-23-5	
Chlorobenzene	<12.8	ug/kg	73.6	12.8	1	02/20/17 08:41	02/21/17 00:11	108-90-7	
Chloroethane	<116	ug/kg	736	116	1	02/20/17 08:41	02/21/17 00:11	75-00-3	
Chloroform	<35.8	ug/kg	73.6	35.8	1	02/20/17 08:41	02/21/17 00:11	67-66-3	
Chloromethane	<35.6	ug/kg	294	35.6	1	02/20/17 08:41	02/21/17 00:11	74-87-3	
Dibromochloromethane	<63.1	ug/kg	294	63.1	1	02/20/17 08:41	02/21/17 00:11	124-48-1	
Dichlorodifluoromethane	<22.5	ug/kg	294	22.5	1	02/20/17 08:41	02/21/17 00:11	75-71-8	
Ethylbenzene	<23.4	ug/kg	73.6	23.4	1	02/20/17 08:41	02/21/17 00:11	100-41-4	
Hexachloro-1,3-butadiene	<69.2	ug/kg	368	69.2	1	02/20/17 08:41	02/21/17 00:11	87-68-3	
Methyl-tert-butyl ether	<13.8	ug/kg	73.6	13.8	1	02/20/17 08:41	02/21/17 00:11	1634-04-4	
Methylene Chloride	<136	ug/kg	294	136	1	02/20/17 08:41	02/21/17 00:11	75-09-2	
Naphthalene	<17.8	ug/kg	294	17.8	1	02/20/17 08:41	02/21/17 00:11	91-20-3	
Styrene	<19.1	ug/kg	73.6	19.1	1	02/20/17 08:41	02/21/17 00:11	100-42-5	
Tetrachloroethene	<28.1	ug/kg	73.6	28.1	1	02/20/17 08:41	02/21/17 00:11	127-18-4	
Tetrahydrofuran	<365	ug/kg	2940	365	1	02/20/17 08:41	02/21/17 00:11	109-99-9	
Toluene	<23.4	ug/kg	73.6	23.4	1	02/20/17 08:41	02/21/17 00:11	108-88-3	
Trichloroethene	<21.0	ug/kg	73.6	21.0	1	02/20/17 08:41	02/21/17 00:11	79-01-6	
Trichlorofluoromethane	<73.9	ug/kg	294	73.9	1	02/20/17 08:41	02/21/17 00:11	75-69-4	
Vinyl acetate	<77.8	ug/kg	736	77.8	1	02/20/17 08:41	02/21/17 00:11	108-05-4	
Vinyl chloride	<9.4	ug/kg	29.4	9.4	1	02/20/17 08:41	02/21/17 00:11	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-55 **Lab ID: 10379430011** Collected: 02/13/17 11:50 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<27.4	ug/kg	73.6	27.4	1	02/20/17 08:41	02/21/17 00:11	156-59-2	
cis-1,3-Dichloropropene	<33.6	ug/kg	73.6	33.6	1	02/20/17 08:41	02/21/17 00:11	10061-01-5	
m&p-Xylene	<36.9	ug/kg	147	36.9	1	02/20/17 08:41	02/21/17 00:11	179601-23-1	
o-Xylene	<21.9	ug/kg	73.6	21.9	1	02/20/17 08:41	02/21/17 00:11	95-47-6	
trans-1,2-Dichloroethene	<35.5	ug/kg	73.6	35.5	1	02/20/17 08:41	02/21/17 00:11	156-60-5	
trans-1,3-Dichloropropene	<25.0	ug/kg	294	25.0	1	02/20/17 08:41	02/21/17 00:11	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-129		1	02/20/17 08:41	02/21/17 00:11	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/20/17 08:41	02/21/17 00:11	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/21/17 00:11	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-60 **Lab ID: 10379430012** Collected: 02/13/17 12:05 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	28.5	%	0.10	0.10	1		02/21/17 11:56		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<30.1	ug/kg	72.0	30.1	1	02/20/17 08:41	02/21/17 01:23	71-55-6	
1,1,2,2-Tetrachloroethane	<16.0	ug/kg	72.0	16.0	1	02/20/17 08:41	02/21/17 01:23	79-34-5	
1,1,2-Trichloroethane	<15.6	ug/kg	72.0	15.6	1	02/20/17 08:41	02/21/17 01:23	79-00-5	
1,1,2-Trichlorotrifluoroethane	<51.8	ug/kg	288	51.8	1	02/20/17 08:41	02/21/17 01:23	76-13-1	
1,1-Dichloroethane	<27.9	ug/kg	72.0	27.9	1	02/20/17 08:41	02/21/17 01:23	75-34-3	
1,1-Dichloroethene	<18.3	ug/kg	72.0	18.3	1	02/20/17 08:41	02/21/17 01:23	75-35-4	
1,2,4-Trichlorobenzene	<22.2	ug/kg	72.0	22.2	1	02/20/17 08:41	02/21/17 01:23	120-82-1	
1,2,4-Trimethylbenzene	<15.8	ug/kg	72.0	15.8	1	02/20/17 08:41	02/21/17 01:23	95-63-6	
1,2-Dibromoethane (EDB)	<27.1	ug/kg	72.0	27.1	1	02/20/17 08:41	02/21/17 01:23	106-93-4	
1,2-Dichlorobenzene	<13.9	ug/kg	72.0	13.9	1	02/20/17 08:41	02/21/17 01:23	95-50-1	
1,2-Dichloroethane	<22.7	ug/kg	72.0	22.7	1	02/20/17 08:41	02/21/17 01:23	107-06-2	
1,3,5-Trimethylbenzene	<16.6	ug/kg	72.0	16.6	1	02/20/17 08:41	02/21/17 01:23	108-67-8	
1,3-Dichlorobenzene	<21.2	ug/kg	72.0	21.2	1	02/20/17 08:41	02/21/17 01:23	541-73-1	
1,4-Dichlorobenzene	<20.9	ug/kg	72.0	20.9	1	02/20/17 08:41	02/21/17 01:23	106-46-7	
2-Butanone (MEK)	<95.0	ug/kg	360	95.0	1	02/20/17 08:41	02/21/17 01:23	78-93-3	
2-Hexanone	<84.8	ug/kg	360	84.8	1	02/20/17 08:41	02/21/17 01:23	591-78-6	
4-Methyl-2-pentanone (MIBK)	<47.7	ug/kg	360	47.7	1	02/20/17 08:41	02/21/17 01:23	108-10-1	
Acetone	<472	ug/kg	1440	472	1	02/20/17 08:41	02/21/17 01:23	67-64-1	
Benzene	<6.2	ug/kg	28.8	6.2	1	02/20/17 08:41	02/21/17 01:23	71-43-2	
Bromodichloromethane	<20.2	ug/kg	72.0	20.2	1	02/20/17 08:41	02/21/17 01:23	75-27-4	
Bromoform	<62.1	ug/kg	288	62.1	1	02/20/17 08:41	02/21/17 01:23	75-25-2	
Bromomethane	<73.0	ug/kg	720	73.0	1	02/20/17 08:41	02/21/17 01:23	74-83-9	
Carbon tetrachloride	<22.6	ug/kg	72.0	22.6	1	02/20/17 08:41	02/21/17 01:23	56-23-5	
Chlorobenzene	<12.5	ug/kg	72.0	12.5	1	02/20/17 08:41	02/21/17 01:23	108-90-7	
Chloroethane	<114	ug/kg	720	114	1	02/20/17 08:41	02/21/17 01:23	75-00-3	
Chloroform	<35.0	ug/kg	72.0	35.0	1	02/20/17 08:41	02/21/17 01:23	67-66-3	
Chloromethane	<34.8	ug/kg	288	34.8	1	02/20/17 08:41	02/21/17 01:23	74-87-3	
Dibromochloromethane	<61.8	ug/kg	288	61.8	1	02/20/17 08:41	02/21/17 01:23	124-48-1	
Dichlorodifluoromethane	<22.0	ug/kg	288	22.0	1	02/20/17 08:41	02/21/17 01:23	75-71-8	
Ethylbenzene	<22.9	ug/kg	72.0	22.9	1	02/20/17 08:41	02/21/17 01:23	100-41-4	
Hexachloro-1,3-butadiene	<67.7	ug/kg	360	67.7	1	02/20/17 08:41	02/21/17 01:23	87-68-3	
Methyl-tert-butyl ether	<13.5	ug/kg	72.0	13.5	1	02/20/17 08:41	02/21/17 01:23	1634-04-4	
Methylene Chloride	<133	ug/kg	288	133	1	02/20/17 08:41	02/21/17 01:23	75-09-2	
Naphthalene	<17.4	ug/kg	288	17.4	1	02/20/17 08:41	02/21/17 01:23	91-20-3	
Styrene	<18.7	ug/kg	72.0	18.7	1	02/20/17 08:41	02/21/17 01:23	100-42-5	
Tetrachloroethene	<27.5	ug/kg	72.0	27.5	1	02/20/17 08:41	02/21/17 01:23	127-18-4	
Tetrahydrofuran	<357	ug/kg	2880	357	1	02/20/17 08:41	02/21/17 01:23	109-99-9	
Toluene	<22.9	ug/kg	72.0	22.9	1	02/20/17 08:41	02/21/17 01:23	108-88-3	
Trichloroethene	<20.6	ug/kg	72.0	20.6	1	02/20/17 08:41	02/21/17 01:23	79-01-6	
Trichlorofluoromethane	<72.3	ug/kg	288	72.3	1	02/20/17 08:41	02/21/17 01:23	75-69-4	
Vinyl acetate	<76.2	ug/kg	720	76.2	1	02/20/17 08:41	02/21/17 01:23	108-05-4	
Vinyl chloride	<9.2	ug/kg	28.8	9.2	1	02/20/17 08:41	02/21/17 01:23	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-60 **Lab ID: 10379430012** Collected: 02/13/17 12:05 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<26.8	ug/kg	72.0	26.8	1	02/20/17 08:41	02/21/17 01:23	156-59-2	
cis-1,3-Dichloropropene	<32.8	ug/kg	72.0	32.8	1	02/20/17 08:41	02/21/17 01:23	10061-01-5	
m&p-Xylene	<36.1	ug/kg	144	36.1	1	02/20/17 08:41	02/21/17 01:23	179601-23-1	
o-Xylene	<21.5	ug/kg	72.0	21.5	1	02/20/17 08:41	02/21/17 01:23	95-47-6	
trans-1,2-Dichloroethene	<34.7	ug/kg	72.0	34.7	1	02/20/17 08:41	02/21/17 01:23	156-60-5	
trans-1,3-Dichloropropene	<24.5	ug/kg	288	24.5	1	02/20/17 08:41	02/21/17 01:23	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-129		1	02/20/17 08:41	02/21/17 01:23	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/20/17 08:41	02/21/17 01:23	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/20/17 08:41	02/21/17 01:23	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-65 **Lab ID: 10379430013** Collected: 02/13/17 12:10 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	26.5	%	0.10	0.10	1		02/21/17 13:15		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<30.5	ug/kg	73.0	30.5	1	02/20/17 08:41	02/21/17 01:41	71-55-6	
1,1,2,2-Tetrachloroethane	<16.2	ug/kg	73.0	16.2	1	02/20/17 08:41	02/21/17 01:41	79-34-5	
1,1,2-Trichloroethane	<15.8	ug/kg	73.0	15.8	1	02/20/17 08:41	02/21/17 01:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<52.6	ug/kg	292	52.6	1	02/20/17 08:41	02/21/17 01:41	76-13-1	
1,1-Dichloroethane	<28.3	ug/kg	73.0	28.3	1	02/20/17 08:41	02/21/17 01:41	75-34-3	
1,1-Dichloroethene	<18.5	ug/kg	73.0	18.5	1	02/20/17 08:41	02/21/17 01:41	75-35-4	
1,2,4-Trichlorobenzene	<22.5	ug/kg	73.0	22.5	1	02/20/17 08:41	02/21/17 01:41	120-82-1	
1,2,4-Trimethylbenzene	<16.1	ug/kg	73.0	16.1	1	02/20/17 08:41	02/21/17 01:41	95-63-6	
1,2-Dibromoethane (EDB)	<27.5	ug/kg	73.0	27.5	1	02/20/17 08:41	02/21/17 01:41	106-93-4	
1,2-Dichlorobenzene	<14.1	ug/kg	73.0	14.1	1	02/20/17 08:41	02/21/17 01:41	95-50-1	
1,2-Dichloroethane	<23.1	ug/kg	73.0	23.1	1	02/20/17 08:41	02/21/17 01:41	107-06-2	
1,3,5-Trimethylbenzene	<16.8	ug/kg	73.0	16.8	1	02/20/17 08:41	02/21/17 01:41	108-67-8	
1,3-Dichlorobenzene	<21.5	ug/kg	73.0	21.5	1	02/20/17 08:41	02/21/17 01:41	541-73-1	
1,4-Dichlorobenzene	<21.2	ug/kg	73.0	21.2	1	02/20/17 08:41	02/21/17 01:41	106-46-7	
2-Butanone (MEK)	<96.4	ug/kg	365	96.4	1	02/20/17 08:41	02/21/17 01:41	78-93-3	
2-Hexanone	<86.0	ug/kg	365	86.0	1	02/20/17 08:41	02/21/17 01:41	591-78-6	
4-Methyl-2-pentanone (MIBK)	<48.3	ug/kg	365	48.3	1	02/20/17 08:41	02/21/17 01:41	108-10-1	
Acetone	<479	ug/kg	1460	479	1	02/20/17 08:41	02/21/17 01:41	67-64-1	
Benzene	<6.3	ug/kg	29.2	6.3	1	02/20/17 08:41	02/21/17 01:41	71-43-2	
Bromodichloromethane	<20.4	ug/kg	73.0	20.4	1	02/20/17 08:41	02/21/17 01:41	75-27-4	
Bromoform	<62.9	ug/kg	292	62.9	1	02/20/17 08:41	02/21/17 01:41	75-25-2	
Bromomethane	<74.0	ug/kg	730	74.0	1	02/20/17 08:41	02/21/17 01:41	74-83-9	
Carbon tetrachloride	<22.9	ug/kg	73.0	22.9	1	02/20/17 08:41	02/21/17 01:41	56-23-5	
Chlorobenzene	<12.7	ug/kg	73.0	12.7	1	02/20/17 08:41	02/21/17 01:41	108-90-7	
Chloroethane	<115	ug/kg	730	115	1	02/20/17 08:41	02/21/17 01:41	75-00-3	
Chloroform	<35.5	ug/kg	73.0	35.5	1	02/20/17 08:41	02/21/17 01:41	67-66-3	
Chloromethane	<35.3	ug/kg	292	35.3	1	02/20/17 08:41	02/21/17 01:41	74-87-3	
Dibromochloromethane	<62.6	ug/kg	292	62.6	1	02/20/17 08:41	02/21/17 01:41	124-48-1	
Dichlorodifluoromethane	<22.3	ug/kg	292	22.3	1	02/20/17 08:41	02/21/17 01:41	75-71-8	
Ethylbenzene	<23.2	ug/kg	73.0	23.2	1	02/20/17 08:41	02/21/17 01:41	100-41-4	
Hexachloro-1,3-butadiene	<68.6	ug/kg	365	68.6	1	02/20/17 08:41	02/21/17 01:41	87-68-3	
Methyl-tert-butyl ether	<13.7	ug/kg	73.0	13.7	1	02/20/17 08:41	02/21/17 01:41	1634-04-4	
Methylene Chloride	<135	ug/kg	292	135	1	02/20/17 08:41	02/21/17 01:41	75-09-2	
Naphthalene	<17.7	ug/kg	292	17.7	1	02/20/17 08:41	02/21/17 01:41	91-20-3	
Styrene	<19.0	ug/kg	73.0	19.0	1	02/20/17 08:41	02/21/17 01:41	100-42-5	
Tetrachloroethene	<27.9	ug/kg	73.0	27.9	1	02/20/17 08:41	02/21/17 01:41	127-18-4	
Tetrahydrofuran	<362	ug/kg	2920	362	1	02/20/17 08:41	02/21/17 01:41	109-99-9	
Toluene	<23.2	ug/kg	73.0	23.2	1	02/20/17 08:41	02/21/17 01:41	108-88-3	
Trichloroethene	<20.9	ug/kg	73.0	20.9	1	02/20/17 08:41	02/21/17 01:41	79-01-6	
Trichlorofluoromethane	<73.3	ug/kg	292	73.3	1	02/20/17 08:41	02/21/17 01:41	75-69-4	
Vinyl acetate	<77.2	ug/kg	730	77.2	1	02/20/17 08:41	02/21/17 01:41	108-05-4	
Vinyl chloride	<9.4	ug/kg	29.2	9.4	1	02/20/17 08:41	02/21/17 01:41	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-65 **Lab ID: 10379430013** Collected: 02/13/17 12:10 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<27.2	ug/kg	73.0	27.2	1	02/20/17 08:41	02/21/17 01:41	156-59-2	
cis-1,3-Dichloropropene	<33.3	ug/kg	73.0	33.3	1	02/20/17 08:41	02/21/17 01:41	10061-01-5	
m&p-Xylene	<36.7	ug/kg	146	36.7	1	02/20/17 08:41	02/21/17 01:41	179601-23-1	
o-Xylene	<21.8	ug/kg	73.0	21.8	1	02/20/17 08:41	02/21/17 01:41	95-47-6	
trans-1,2-Dichloroethene	<35.2	ug/kg	73.0	35.2	1	02/20/17 08:41	02/21/17 01:41	156-60-5	
trans-1,3-Dichloropropene	<24.8	ug/kg	292	24.8	1	02/20/17 08:41	02/21/17 01:41	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-129		1	02/20/17 08:41	02/21/17 01:41	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/20/17 08:41	02/21/17 01:41	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/21/17 01:41	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-70 **Lab ID: 10379430014** Collected: 02/13/17 12:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	34.3	%	0.10	0.10	1		02/21/17 13:15		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<29.1	ug/kg	69.7	29.1	1	02/20/17 08:41	02/21/17 01:58	71-55-6	
1,1,2,2-Tetrachloroethane	<15.5	ug/kg	69.7	15.5	1	02/20/17 08:41	02/21/17 01:58	79-34-5	
1,1,2-Trichloroethane	<15.1	ug/kg	69.7	15.1	1	02/20/17 08:41	02/21/17 01:58	79-00-5	
1,1,2-Trichlorotrifluoroethane	<50.2	ug/kg	279	50.2	1	02/20/17 08:41	02/21/17 01:58	76-13-1	
1,1-Dichloroethane	<27.1	ug/kg	69.7	27.1	1	02/20/17 08:41	02/21/17 01:58	75-34-3	
1,1-Dichloroethene	<17.7	ug/kg	69.7	17.7	1	02/20/17 08:41	02/21/17 01:58	75-35-4	
1,2,4-Trichlorobenzene	<21.5	ug/kg	69.7	21.5	1	02/20/17 08:41	02/21/17 01:58	120-82-1	
1,2,4-Trimethylbenzene	<15.3	ug/kg	69.7	15.3	1	02/20/17 08:41	02/21/17 01:58	95-63-6	
1,2-Dibromoethane (EDB)	<26.2	ug/kg	69.7	26.2	1	02/20/17 08:41	02/21/17 01:58	106-93-4	
1,2-Dichlorobenzene	<13.5	ug/kg	69.7	13.5	1	02/20/17 08:41	02/21/17 01:58	95-50-1	
1,2-Dichloroethane	<22.0	ug/kg	69.7	22.0	1	02/20/17 08:41	02/21/17 01:58	107-06-2	
1,3,5-Trimethylbenzene	<16.0	ug/kg	69.7	16.0	1	02/20/17 08:41	02/21/17 01:58	108-67-8	
1,3-Dichlorobenzene	<20.5	ug/kg	69.7	20.5	1	02/20/17 08:41	02/21/17 01:58	541-73-1	
1,4-Dichlorobenzene	<20.2	ug/kg	69.7	20.2	1	02/20/17 08:41	02/21/17 01:58	106-46-7	
2-Butanone (MEK)	<92.0	ug/kg	349	92.0	1	02/20/17 08:41	02/21/17 01:58	78-93-3	
2-Hexanone	<82.1	ug/kg	349	82.1	1	02/20/17 08:41	02/21/17 01:58	591-78-6	
4-Methyl-2-pentanone (MIBK)	<46.2	ug/kg	349	46.2	1	02/20/17 08:41	02/21/17 01:58	108-10-1	
Acetone	<457	ug/kg	1390	457	1	02/20/17 08:41	02/21/17 01:58	67-64-1	
Benzene	<6.0	ug/kg	27.9	6.0	1	02/20/17 08:41	02/21/17 01:58	71-43-2	
Bromodichloromethane	<19.5	ug/kg	69.7	19.5	1	02/20/17 08:41	02/21/17 01:58	75-27-4	
Bromoform	<60.1	ug/kg	279	60.1	1	02/20/17 08:41	02/21/17 01:58	75-25-2	
Bromomethane	<70.7	ug/kg	697	70.7	1	02/20/17 08:41	02/21/17 01:58	74-83-9	
Carbon tetrachloride	<21.9	ug/kg	69.7	21.9	1	02/20/17 08:41	02/21/17 01:58	56-23-5	
Chlorobenzene	<12.1	ug/kg	69.7	12.1	1	02/20/17 08:41	02/21/17 01:58	108-90-7	
Chloroethane	<110	ug/kg	697	110	1	02/20/17 08:41	02/21/17 01:58	75-00-3	
Chloroform	<33.9	ug/kg	69.7	33.9	1	02/20/17 08:41	02/21/17 01:58	67-66-3	
Chloromethane	<33.7	ug/kg	279	33.7	1	02/20/17 08:41	02/21/17 01:58	74-87-3	
Dibromochloromethane	<59.8	ug/kg	279	59.8	1	02/20/17 08:41	02/21/17 01:58	124-48-1	
Dichlorodifluoromethane	<21.3	ug/kg	279	21.3	1	02/20/17 08:41	02/21/17 01:58	75-71-8	
Ethylbenzene	<22.2	ug/kg	69.7	22.2	1	02/20/17 08:41	02/21/17 01:58	100-41-4	
Hexachloro-1,3-butadiene	<65.5	ug/kg	349	65.5	1	02/20/17 08:41	02/21/17 01:58	87-68-3	
Methyl-tert-butyl ether	<13.1	ug/kg	69.7	13.1	1	02/20/17 08:41	02/21/17 01:58	1634-04-4	
Methylene Chloride	<129	ug/kg	279	129	1	02/20/17 08:41	02/21/17 01:58	75-09-2	
Naphthalene	<16.9	ug/kg	279	16.9	1	02/20/17 08:41	02/21/17 01:58	91-20-3	
Styrene	<18.1	ug/kg	69.7	18.1	1	02/20/17 08:41	02/21/17 01:58	100-42-5	
Tetrachloroethene	<26.6	ug/kg	69.7	26.6	1	02/20/17 08:41	02/21/17 01:58	127-18-4	
Tetrahydrofuran	<346	ug/kg	2790	346	1	02/20/17 08:41	02/21/17 01:58	109-99-9	
Toluene	<22.2	ug/kg	69.7	22.2	1	02/20/17 08:41	02/21/17 01:58	108-88-3	
Trichloroethene	<19.9	ug/kg	69.7	19.9	1	02/20/17 08:41	02/21/17 01:58	79-01-6	
Trichlorofluoromethane	<70.0	ug/kg	279	70.0	1	02/20/17 08:41	02/21/17 01:58	75-69-4	
Vinyl acetate	<73.8	ug/kg	697	73.8	1	02/20/17 08:41	02/21/17 01:58	108-05-4	
Vinyl chloride	<9.0	ug/kg	27.9	9.0	1	02/20/17 08:41	02/21/17 01:58	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-70 **Lab ID: 10379430014** Collected: 02/13/17 12:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<25.9	ug/kg	69.7	25.9	1	02/20/17 08:41	02/21/17 01:58	156-59-2	
cis-1,3-Dichloropropene	<31.8	ug/kg	69.7	31.8	1	02/20/17 08:41	02/21/17 01:58	10061-01-5	
m&p-Xylene	<35.0	ug/kg	139	35.0	1	02/20/17 08:41	02/21/17 01:58	179601-23-1	
o-Xylene	<20.8	ug/kg	69.7	20.8	1	02/20/17 08:41	02/21/17 01:58	95-47-6	
trans-1,2-Dichloroethene	<33.6	ug/kg	69.7	33.6	1	02/20/17 08:41	02/21/17 01:58	156-60-5	
trans-1,3-Dichloropropene	<23.7	ug/kg	279	23.7	1	02/20/17 08:41	02/21/17 01:58	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-129		1	02/20/17 08:41	02/21/17 01:58	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/20/17 08:41	02/21/17 01:58	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/20/17 08:41	02/21/17 01:58	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-75 **Lab ID: 10379430015** Collected: 02/13/17 12:45 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	15.2	%	0.10	0.10	1		02/21/17 13:16		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.2	ug/kg	62.7	26.2	1	02/20/17 08:41	02/21/17 02:34	71-55-6	
1,1,2,2-Tetrachloroethane	<13.9	ug/kg	62.7	13.9	1	02/20/17 08:41	02/21/17 02:34	79-34-5	
1,1,2-Trichloroethane	<13.5	ug/kg	62.7	13.5	1	02/20/17 08:41	02/21/17 02:34	79-00-5	
1,1,2-Trichlorotrifluoroethane	<45.2	ug/kg	251	45.2	1	02/20/17 08:41	02/21/17 02:34	76-13-1	
1,1-Dichloroethane	<24.3	ug/kg	62.7	24.3	1	02/20/17 08:41	02/21/17 02:34	75-34-3	
1,1-Dichloroethene	<15.9	ug/kg	62.7	15.9	1	02/20/17 08:41	02/21/17 02:34	75-35-4	
1,2,4-Trichlorobenzene	<19.3	ug/kg	62.7	19.3	1	02/20/17 08:41	02/21/17 02:34	120-82-1	
1,2,4-Trimethylbenzene	<13.8	ug/kg	62.7	13.8	1	02/20/17 08:41	02/21/17 02:34	95-63-6	
1,2-Dibromoethane (EDB)	<23.6	ug/kg	62.7	23.6	1	02/20/17 08:41	02/21/17 02:34	106-93-4	
1,2-Dichlorobenzene	<12.1	ug/kg	62.7	12.1	1	02/20/17 08:41	02/21/17 02:34	95-50-1	
1,2-Dichloroethane	<19.8	ug/kg	62.7	19.8	1	02/20/17 08:41	02/21/17 02:34	107-06-2	
1,3,5-Trimethylbenzene	<14.4	ug/kg	62.7	14.4	1	02/20/17 08:41	02/21/17 02:34	108-67-8	
1,3-Dichlorobenzene	<18.4	ug/kg	62.7	18.4	1	02/20/17 08:41	02/21/17 02:34	541-73-1	
1,4-Dichlorobenzene	<18.2	ug/kg	62.7	18.2	1	02/20/17 08:41	02/21/17 02:34	106-46-7	
2-Butanone (MEK)	<82.8	ug/kg	314	82.8	1	02/20/17 08:41	02/21/17 02:34	78-93-3	
2-Hexanone	<73.9	ug/kg	314	73.9	1	02/20/17 08:41	02/21/17 02:34	591-78-6	
4-Methyl-2-pentanone (MIBK)	<41.5	ug/kg	314	41.5	1	02/20/17 08:41	02/21/17 02:34	108-10-1	
Acetone	<411	ug/kg	1250	411	1	02/20/17 08:41	02/21/17 02:34	67-64-1	
Benzene	<5.4	ug/kg	25.1	5.4	1	02/20/17 08:41	02/21/17 02:34	71-43-2	
Bromodichloromethane	<17.6	ug/kg	62.7	17.6	1	02/20/17 08:41	02/21/17 02:34	75-27-4	
Bromoform	<54.1	ug/kg	251	54.1	1	02/20/17 08:41	02/21/17 02:34	75-25-2	
Bromomethane	<63.6	ug/kg	627	63.6	1	02/20/17 08:41	02/21/17 02:34	74-83-9	
Carbon tetrachloride	<19.7	ug/kg	62.7	19.7	1	02/20/17 08:41	02/21/17 02:34	56-23-5	
Chlorobenzene	<10.9	ug/kg	62.7	10.9	1	02/20/17 08:41	02/21/17 02:34	108-90-7	
Chloroethane	<99.1	ug/kg	627	99.1	1	02/20/17 08:41	02/21/17 02:34	75-00-3	
Chloroform	<30.5	ug/kg	62.7	30.5	1	02/20/17 08:41	02/21/17 02:34	67-66-3	
Chloromethane	<30.4	ug/kg	251	30.4	1	02/20/17 08:41	02/21/17 02:34	74-87-3	
Dibromochloromethane	<53.8	ug/kg	251	53.8	1	02/20/17 08:41	02/21/17 02:34	124-48-1	
Dichlorodifluoromethane	<19.2	ug/kg	251	19.2	1	02/20/17 08:41	02/21/17 02:34	75-71-8	
Ethylbenzene	<19.9	ug/kg	62.7	19.9	1	02/20/17 08:41	02/21/17 02:34	100-41-4	
Hexachloro-1,3-butadiene	<59.0	ug/kg	314	59.0	1	02/20/17 08:41	02/21/17 02:34	87-68-3	
Methyl-tert-butyl ether	<11.7	ug/kg	62.7	11.7	1	02/20/17 08:41	02/21/17 02:34	1634-04-4	
Methylene Chloride	<116	ug/kg	251	116	1	02/20/17 08:41	02/21/17 02:34	75-09-2	
Naphthalene	<15.2	ug/kg	251	15.2	1	02/20/17 08:41	02/21/17 02:34	91-20-3	
Styrene	<16.3	ug/kg	62.7	16.3	1	02/20/17 08:41	02/21/17 02:34	100-42-5	
Tetrachloroethene	<24.0	ug/kg	62.7	24.0	1	02/20/17 08:41	02/21/17 02:34	127-18-4	
Tetrahydrofuran	<311	ug/kg	2510	311	1	02/20/17 08:41	02/21/17 02:34	109-99-9	
Toluene	<19.9	ug/kg	62.7	19.9	1	02/20/17 08:41	02/21/17 02:34	108-88-3	
Trichloroethene	<17.9	ug/kg	62.7	17.9	1	02/20/17 08:41	02/21/17 02:34	79-01-6	
Trichlorofluoromethane	<63.0	ug/kg	251	63.0	1	02/20/17 08:41	02/21/17 02:34	75-69-4	
Vinyl acetate	<66.4	ug/kg	627	66.4	1	02/20/17 08:41	02/21/17 02:34	108-05-4	
Vinyl chloride	<8.1	ug/kg	25.1	8.1	1	02/20/17 08:41	02/21/17 02:34	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-75 **Lab ID: 10379430015** Collected: 02/13/17 12:45 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.3	ug/kg	62.7	23.3	1	02/20/17 08:41	02/21/17 02:34	156-59-2	
cis-1,3-Dichloropropene	<28.6	ug/kg	62.7	28.6	1	02/20/17 08:41	02/21/17 02:34	10061-01-5	
m&p-Xylene	<31.5	ug/kg	125	31.5	1	02/20/17 08:41	02/21/17 02:34	179601-23-1	
o-Xylene	<18.7	ug/kg	62.7	18.7	1	02/20/17 08:41	02/21/17 02:34	95-47-6	
trans-1,2-Dichloroethene	<30.2	ug/kg	62.7	30.2	1	02/20/17 08:41	02/21/17 02:34	156-60-5	
trans-1,3-Dichloropropene	<21.3	ug/kg	251	21.3	1	02/20/17 08:41	02/21/17 02:34	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-129		1	02/20/17 08:41	02/21/17 02:34	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1	02/20/17 08:41	02/21/17 02:34	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	02/20/17 08:41	02/21/17 02:34	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-80** Lab ID: **10379430016** Collected: 02/13/17 13:10 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	16.5	%	0.10	0.10	1		02/21/17 13:16		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<26.0	ug/kg	62.1	26.0	1	02/20/17 08:41	02/21/17 03:10	71-55-6	
1,1,2,2-Tetrachloroethane	<13.8	ug/kg	62.1	13.8	1	02/20/17 08:41	02/21/17 03:10	79-34-5	
1,1,2-Trichloroethane	<13.4	ug/kg	62.1	13.4	1	02/20/17 08:41	02/21/17 03:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.7	ug/kg	248	44.7	1	02/20/17 08:41	02/21/17 03:10	76-13-1	
1,1-Dichloroethane	<24.1	ug/kg	62.1	24.1	1	02/20/17 08:41	02/21/17 03:10	75-34-3	
1,1-Dichloroethene	<15.8	ug/kg	62.1	15.8	1	02/20/17 08:41	02/21/17 03:10	75-35-4	
1,2,4-Trichlorobenzene	<19.1	ug/kg	62.1	19.1	1	02/20/17 08:41	02/21/17 03:10	120-82-1	
1,2,4-Trimethylbenzene	<13.7	ug/kg	62.1	13.7	1	02/20/17 08:41	02/21/17 03:10	95-63-6	
1,2-Dibromoethane (EDB)	<23.4	ug/kg	62.1	23.4	1	02/20/17 08:41	02/21/17 03:10	106-93-4	
1,2-Dichlorobenzene	<12.0	ug/kg	62.1	12.0	1	02/20/17 08:41	02/21/17 03:10	95-50-1	
1,2-Dichloroethane	<19.6	ug/kg	62.1	19.6	1	02/20/17 08:41	02/21/17 03:10	107-06-2	
1,3,5-Trimethylbenzene	<14.3	ug/kg	62.1	14.3	1	02/20/17 08:41	02/21/17 03:10	108-67-8	
1,3-Dichlorobenzene	<18.3	ug/kg	62.1	18.3	1	02/20/17 08:41	02/21/17 03:10	541-73-1	
1,4-Dichlorobenzene	<18.0	ug/kg	62.1	18.0	1	02/20/17 08:41	02/21/17 03:10	106-46-7	
2-Butanone (MEK)	<82.0	ug/kg	311	82.0	1	02/20/17 08:41	02/21/17 03:10	78-93-3	
2-Hexanone	<73.2	ug/kg	311	73.2	1	02/20/17 08:41	02/21/17 03:10	591-78-6	
4-Methyl-2-pentanone (MIBK)	<41.1	ug/kg	311	41.1	1	02/20/17 08:41	02/21/17 03:10	108-10-1	
Acetone	<408	ug/kg	1240	408	1	02/20/17 08:41	02/21/17 03:10	67-64-1	
Benzene	<5.4	ug/kg	24.8	5.4	1	02/20/17 08:41	02/21/17 03:10	71-43-2	
Bromodichloromethane	<17.4	ug/kg	62.1	17.4	1	02/20/17 08:41	02/21/17 03:10	75-27-4	
Bromoform	<53.6	ug/kg	248	53.6	1	02/20/17 08:41	02/21/17 03:10	75-25-2	
Bromomethane	<63.0	ug/kg	621	63.0	1	02/20/17 08:41	02/21/17 03:10	74-83-9	
Carbon tetrachloride	<19.5	ug/kg	62.1	19.5	1	02/20/17 08:41	02/21/17 03:10	56-23-5	
Chlorobenzene	<10.8	ug/kg	62.1	10.8	1	02/20/17 08:41	02/21/17 03:10	108-90-7	
Chloroethane	<98.2	ug/kg	621	98.2	1	02/20/17 08:41	02/21/17 03:10	75-00-3	
Chloroform	<30.2	ug/kg	62.1	30.2	1	02/20/17 08:41	02/21/17 03:10	67-66-3	
Chloromethane	<30.1	ug/kg	248	30.1	1	02/20/17 08:41	02/21/17 03:10	74-87-3	
Dibromochloromethane	<53.3	ug/kg	248	53.3	1	02/20/17 08:41	02/21/17 03:10	124-48-1	
Dichlorodifluoromethane	<19.0	ug/kg	248	19.0	1	02/20/17 08:41	02/21/17 03:10	75-71-8	
Ethylbenzene	<19.8	ug/kg	62.1	19.8	1	02/20/17 08:41	02/21/17 03:10	100-41-4	
Hexachloro-1,3-butadiene	<58.4	ug/kg	311	58.4	1	02/20/17 08:41	02/21/17 03:10	87-68-3	
Methyl-tert-butyl ether	<11.6	ug/kg	62.1	11.6	1	02/20/17 08:41	02/21/17 03:10	1634-04-4	
Methylene Chloride	<115	ug/kg	248	115	1	02/20/17 08:41	02/21/17 03:10	75-09-2	
Naphthalene	<15.0	ug/kg	248	15.0	1	02/20/17 08:41	02/21/17 03:10	91-20-3	
Styrene	<16.2	ug/kg	62.1	16.2	1	02/20/17 08:41	02/21/17 03:10	100-42-5	
Tetrachloroethene	<23.7	ug/kg	62.1	23.7	1	02/20/17 08:41	02/21/17 03:10	127-18-4	
Tetrahydrofuran	<308	ug/kg	2480	308	1	02/20/17 08:41	02/21/17 03:10	109-99-9	
Toluene	<19.8	ug/kg	62.1	19.8	1	02/20/17 08:41	02/21/17 03:10	108-88-3	
Trichloroethene	<17.8	ug/kg	62.1	17.8	1	02/20/17 08:41	02/21/17 03:10	79-01-6	
Trichlorofluoromethane	<62.4	ug/kg	248	62.4	1	02/20/17 08:41	02/21/17 03:10	75-69-4	
Vinyl acetate	<65.7	ug/kg	621	65.7	1	02/20/17 08:41	02/21/17 03:10	108-05-4	
Vinyl chloride	<8.0	ug/kg	24.8	8.0	1	02/20/17 08:41	02/21/17 03:10	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-80 **Lab ID: 10379430016** Collected: 02/13/17 13:10 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.1	ug/kg	62.1	23.1	1	02/20/17 08:41	02/21/17 03:10	156-59-2	
cis-1,3-Dichloropropene	<28.3	ug/kg	62.1	28.3	1	02/20/17 08:41	02/21/17 03:10	10061-01-5	
m&p-Xylene	<31.2	ug/kg	124	31.2	1	02/20/17 08:41	02/21/17 03:10	179601-23-1	
o-Xylene	<18.5	ug/kg	62.1	18.5	1	02/20/17 08:41	02/21/17 03:10	95-47-6	
trans-1,2-Dichloroethene	<29.9	ug/kg	62.1	29.9	1	02/20/17 08:41	02/21/17 03:10	156-60-5	
trans-1,3-Dichloropropene	<21.1	ug/kg	248	21.1	1	02/20/17 08:41	02/21/17 03:10	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-129		1	02/20/17 08:41	02/21/17 03:10	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1	02/20/17 08:41	02/21/17 03:10	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/20/17 08:41	02/21/17 03:10	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-85 **Lab ID: 10379430017** Collected: 02/13/17 13:15 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	19.6	%	0.10	0.10	1		02/21/17 13:16		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<20.4	ug/kg	48.9	20.4	1	02/21/17 10:18	02/22/17 10:21	71-55-6	
1,1,2,2-Tetrachloroethane	<10.9	ug/kg	48.9	10.9	1	02/21/17 10:18	02/22/17 10:21	79-34-5	
1,1,2-Trichloroethane	<10.6	ug/kg	48.9	10.6	1	02/21/17 10:18	02/22/17 10:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<35.2	ug/kg	196	35.2	1	02/21/17 10:18	02/22/17 10:21	76-13-1	
1,1-Dichloroethane	<19.0	ug/kg	48.9	19.0	1	02/21/17 10:18	02/22/17 10:21	75-34-3	
1,1-Dichloroethene	<12.4	ug/kg	48.9	12.4	1	02/21/17 10:18	02/22/17 10:21	75-35-4	
1,2,4-Trichlorobenzene	<15.1	ug/kg	48.9	15.1	1	02/21/17 10:18	02/22/17 10:21	120-82-1	
1,2,4-Trimethylbenzene	<10.8	ug/kg	48.9	10.8	1	02/21/17 10:18	02/22/17 10:21	95-63-6	
1,2-Dibromoethane (EDB)	<18.4	ug/kg	48.9	18.4	1	02/21/17 10:18	02/22/17 10:21	106-93-4	
1,2-Dichlorobenzene	<9.4	ug/kg	48.9	9.4	1	02/21/17 10:18	02/22/17 10:21	95-50-1	
1,2-Dichloroethane	<15.5	ug/kg	48.9	15.5	1	02/21/17 10:18	02/22/17 10:21	107-06-2	
1,3,5-Trimethylbenzene	<11.2	ug/kg	48.9	11.2	1	02/21/17 10:18	02/22/17 10:21	108-67-8	
1,3-Dichlorobenzene	<14.4	ug/kg	48.9	14.4	1	02/21/17 10:18	02/22/17 10:21	541-73-1	
1,4-Dichlorobenzene	<14.2	ug/kg	48.9	14.2	1	02/21/17 10:18	02/22/17 10:21	106-46-7	
2-Butanone (MEK)	<64.5	ug/kg	244	64.5	1	02/21/17 10:18	02/22/17 10:21	78-93-3	
2-Hexanone	<57.6	ug/kg	244	57.6	1	02/21/17 10:18	02/22/17 10:21	591-78-6	
4-Methyl-2-pentanone (MIBK)	<32.4	ug/kg	244	32.4	1	02/21/17 10:18	02/22/17 10:21	108-10-1	
Acetone	<321	ug/kg	978	321	1	02/21/17 10:18	02/22/17 10:21	67-64-1	
Benzene	<4.2	ug/kg	19.6	4.2	1	02/21/17 10:18	02/22/17 10:21	71-43-2	
Bromodichloromethane	<13.7	ug/kg	48.9	13.7	1	02/21/17 10:18	02/22/17 10:21	75-27-4	
Bromoform	<42.1	ug/kg	196	42.1	1	02/21/17 10:18	02/22/17 10:21	75-25-2	
Bromomethane	<49.6	ug/kg	489	49.6	1	02/21/17 10:18	02/22/17 10:21	74-83-9	
Carbon tetrachloride	<15.4	ug/kg	48.9	15.4	1	02/21/17 10:18	02/22/17 10:21	56-23-5	
Chlorobenzene	<8.5	ug/kg	48.9	8.5	1	02/21/17 10:18	02/22/17 10:21	108-90-7	
Chloroethane	<77.3	ug/kg	489	77.3	1	02/21/17 10:18	02/22/17 10:21	75-00-3	
Chloroform	<23.8	ug/kg	48.9	23.8	1	02/21/17 10:18	02/22/17 10:21	67-66-3	
Chloromethane	<23.7	ug/kg	196	23.7	1	02/21/17 10:18	02/22/17 10:21	74-87-3	
Dibromochloromethane	<42.0	ug/kg	196	42.0	1	02/21/17 10:18	02/22/17 10:21	124-48-1	
Dichlorodifluoromethane	<15.0	ug/kg	196	15.0	1	02/21/17 10:18	02/22/17 10:21	75-71-8	
Ethylbenzene	<15.5	ug/kg	48.9	15.5	1	02/21/17 10:18	02/22/17 10:21	100-41-4	
Hexachloro-1,3-butadiene	<46.0	ug/kg	244	46.0	1	02/21/17 10:18	02/22/17 10:21	87-68-3	
Methyl-tert-butyl ether	<9.2	ug/kg	48.9	9.2	1	02/21/17 10:18	02/22/17 10:21	1634-04-4	
Methylene Chloride	<90.6	ug/kg	196	90.6	1	02/21/17 10:18	02/22/17 10:21	75-09-2	
Naphthalene	<11.8	ug/kg	196	11.8	1	02/21/17 10:18	02/22/17 10:21	91-20-3	
Styrene	<12.7	ug/kg	48.9	12.7	1	02/21/17 10:18	02/22/17 10:21	100-42-5	
Tetrachloroethene	<18.7	ug/kg	48.9	18.7	1	02/21/17 10:18	02/22/17 10:21	127-18-4	
Tetrahydrofuran	<243	ug/kg	1960	243	1	02/21/17 10:18	02/22/17 10:21	109-99-9	
Toluene	<15.5	ug/kg	48.9	15.5	1	02/21/17 10:18	02/22/17 10:21	108-88-3	
Trichloroethene	<14.0	ug/kg	48.9	14.0	1	02/21/17 10:18	02/22/17 10:21	79-01-6	
Trichlorofluoromethane	<49.1	ug/kg	196	49.1	1	02/21/17 10:18	02/22/17 10:21	75-69-4	
Vinyl acetate	<51.7	ug/kg	489	51.7	1	02/21/17 10:18	02/22/17 10:21	108-05-4	
Vinyl chloride	<6.3	ug/kg	19.6	6.3	1	02/21/17 10:18	02/22/17 10:21	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-85 **Lab ID: 10379430017** Collected: 02/13/17 13:15 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<18.2	ug/kg	48.9	18.2	1	02/21/17 10:18	02/22/17 10:21	156-59-2	
cis-1,3-Dichloropropene	<22.3	ug/kg	48.9	22.3	1	02/21/17 10:18	02/22/17 10:21	10061-01-5	
m&p-Xylene	<24.5	ug/kg	97.8	24.5	1	02/21/17 10:18	02/22/17 10:21	179601-23-1	
o-Xylene	<14.6	ug/kg	48.9	14.6	1	02/21/17 10:18	02/22/17 10:21	95-47-6	
trans-1,2-Dichloroethene	<23.6	ug/kg	48.9	23.6	1	02/21/17 10:18	02/22/17 10:21	156-60-5	
trans-1,3-Dichloropropene	<16.6	ug/kg	196	16.6	1	02/21/17 10:18	02/22/17 10:21	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-129		1	02/21/17 10:18	02/22/17 10:21	17060-07-0	1M
Toluene-d8 (S)	102	%	75-125		1	02/21/17 10:18	02/22/17 10:21	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/21/17 10:18	02/22/17 10:21	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-90 **Lab ID: 10379430018** Collected: 02/13/17 13:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	18.4	%	0.10	0.10	1		02/21/17 13:17		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<20.2	ug/kg	48.4	20.2	1	02/21/17 10:18	02/21/17 19:41	71-55-6	
1,1,2,2-Tetrachloroethane	<10.7	ug/kg	48.4	10.7	1	02/21/17 10:18	02/21/17 19:41	79-34-5	
1,1,2-Trichloroethane	<10.5	ug/kg	48.4	10.5	1	02/21/17 10:18	02/21/17 19:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<34.8	ug/kg	194	34.8	1	02/21/17 10:18	02/21/17 19:41	76-13-1	
1,1-Dichloroethane	<18.8	ug/kg	48.4	18.8	1	02/21/17 10:18	02/21/17 19:41	75-34-3	
1,1-Dichloroethene	<12.3	ug/kg	48.4	12.3	1	02/21/17 10:18	02/21/17 19:41	75-35-4	
1,2,4-Trichlorobenzene	<14.9	ug/kg	48.4	14.9	1	02/21/17 10:18	02/21/17 19:41	120-82-1	
1,2,4-Trimethylbenzene	<10.6	ug/kg	48.4	10.6	1	02/21/17 10:18	02/21/17 19:41	95-63-6	
1,2-Dibromoethane (EDB)	<18.2	ug/kg	48.4	18.2	1	02/21/17 10:18	02/21/17 19:41	106-93-4	
1,2-Dichlorobenzene	<9.4	ug/kg	48.4	9.4	1	02/21/17 10:18	02/21/17 19:41	95-50-1	
1,2-Dichloroethane	<15.3	ug/kg	48.4	15.3	1	02/21/17 10:18	02/21/17 19:41	107-06-2	
1,3,5-Trimethylbenzene	<11.1	ug/kg	48.4	11.1	1	02/21/17 10:18	02/21/17 19:41	108-67-8	
1,3-Dichlorobenzene	<14.2	ug/kg	48.4	14.2	1	02/21/17 10:18	02/21/17 19:41	541-73-1	
1,4-Dichlorobenzene	<14.0	ug/kg	48.4	14.0	1	02/21/17 10:18	02/21/17 19:41	106-46-7	
2-Butanone (MEK)	<63.9	ug/kg	242	63.9	1	02/21/17 10:18	02/21/17 19:41	78-93-3	
2-Hexanone	<57.0	ug/kg	242	57.0	1	02/21/17 10:18	02/21/17 19:41	591-78-6	
4-Methyl-2-pentanone (MIBK)	<32.0	ug/kg	242	32.0	1	02/21/17 10:18	02/21/17 19:41	108-10-1	
Acetone	<318	ug/kg	968	318	1	02/21/17 10:18	02/21/17 19:41	67-64-1	
Benzene	<4.2	ug/kg	19.4	4.2	1	02/21/17 10:18	02/21/17 19:41	71-43-2	
Bromodichloromethane	<13.6	ug/kg	48.4	13.6	1	02/21/17 10:18	02/21/17 19:41	75-27-4	
Bromoform	<41.7	ug/kg	194	41.7	1	02/21/17 10:18	02/21/17 19:41	75-25-2	
Bromomethane	<49.1	ug/kg	484	49.1	1	02/21/17 10:18	02/21/17 19:41	74-83-9	
Carbon tetrachloride	<15.2	ug/kg	48.4	15.2	1	02/21/17 10:18	02/21/17 19:41	56-23-5	
Chlorobenzene	<8.4	ug/kg	48.4	8.4	1	02/21/17 10:18	02/21/17 19:41	108-90-7	
Chloroethane	<76.5	ug/kg	484	76.5	1	02/21/17 10:18	02/21/17 19:41	75-00-3	
Chloroform	<23.5	ug/kg	48.4	23.5	1	02/21/17 10:18	02/21/17 19:41	67-66-3	
Chloromethane	<23.4	ug/kg	194	23.4	1	02/21/17 10:18	02/21/17 19:41	74-87-3	
Dibromochloromethane	<41.5	ug/kg	194	41.5	1	02/21/17 10:18	02/21/17 19:41	124-48-1	
Dichlorodifluoromethane	<14.8	ug/kg	194	14.8	1	02/21/17 10:18	02/21/17 19:41	75-71-8	
Ethylbenzene	<15.4	ug/kg	48.4	15.4	1	02/21/17 10:18	02/21/17 19:41	100-41-4	
Hexachloro-1,3-butadiene	<45.5	ug/kg	242	45.5	1	02/21/17 10:18	02/21/17 19:41	87-68-3	
Methyl-tert-butyl ether	<9.1	ug/kg	48.4	9.1	1	02/21/17 10:18	02/21/17 19:41	1634-04-4	
Methylene Chloride	<89.6	ug/kg	194	89.6	1	02/21/17 10:18	02/21/17 19:41	75-09-2	
Naphthalene	<11.7	ug/kg	194	11.7	1	02/21/17 10:18	02/21/17 19:41	91-20-3	
Styrene	<12.6	ug/kg	48.4	12.6	1	02/21/17 10:18	02/21/17 19:41	100-42-5	
Tetrachloroethene	<18.5	ug/kg	48.4	18.5	1	02/21/17 10:18	02/21/17 19:41	127-18-4	
Tetrahydrofuran	<240	ug/kg	1940	240	1	02/21/17 10:18	02/21/17 19:41	109-99-9	
Toluene	<15.4	ug/kg	48.4	15.4	1	02/21/17 10:18	02/21/17 19:41	108-88-3	
Trichloroethene	<13.8	ug/kg	48.4	13.8	1	02/21/17 10:18	02/21/17 19:41	79-01-6	
Trichlorofluoromethane	<48.6	ug/kg	194	48.6	1	02/21/17 10:18	02/21/17 19:41	75-69-4	
Vinyl acetate	<51.2	ug/kg	484	51.2	1	02/21/17 10:18	02/21/17 19:41	108-05-4	
Vinyl chloride	<6.2	ug/kg	19.4	6.2	1	02/21/17 10:18	02/21/17 19:41	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-90 **Lab ID: 10379430018** Collected: 02/13/17 13:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<18.0	ug/kg	48.4	18.0	1	02/21/17 10:18	02/21/17 19:41	156-59-2	
cis-1,3-Dichloropropene	<22.1	ug/kg	48.4	22.1	1	02/21/17 10:18	02/21/17 19:41	10061-01-5	
m&p-Xylene	<24.3	ug/kg	96.8	24.3	1	02/21/17 10:18	02/21/17 19:41	179601-23-1	
o-Xylene	<14.4	ug/kg	48.4	14.4	1	02/21/17 10:18	02/21/17 19:41	95-47-6	
trans-1,2-Dichloroethene	<23.3	ug/kg	48.4	23.3	1	02/21/17 10:18	02/21/17 19:41	156-60-5	
trans-1,3-Dichloropropene	<16.5	ug/kg	194	16.5	1	02/21/17 10:18	02/21/17 19:41	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-129		1	02/21/17 10:18	02/21/17 19:41	17060-07-0	1M
Toluene-d8 (S)	103	%	75-125		1	02/21/17 10:18	02/21/17 19:41	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	02/21/17 10:18	02/21/17 19:41	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB40-SS-95** Lab ID: **10379430019** Collected: 02/13/17 13:45 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight									
Analytical Method: ASTM D2974									
Percent Moisture	20.7	%	0.10	0.10	1		02/21/17 13:17		
8260B MSV 5030 Med Level									
Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B									
1,1,1-Trichloroethane	<25.8	ug/kg	61.8	25.8	1	02/21/17 16:12	02/22/17 01:08	71-55-6	
1,1,2,2-Tetrachloroethane	<13.7	ug/kg	61.8	13.7	1	02/21/17 16:12	02/22/17 01:08	79-34-5	
1,1,2-Trichloroethane	<13.3	ug/kg	61.8	13.3	1	02/21/17 16:12	02/22/17 01:08	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.5	ug/kg	247	44.5	1	02/21/17 16:12	02/22/17 01:08	76-13-1	
1,1-Dichloroethane	<24.0	ug/kg	61.8	24.0	1	02/21/17 16:12	02/22/17 01:08	75-34-3	
1,1-Dichloroethene	<15.7	ug/kg	61.8	15.7	1	02/21/17 16:12	02/22/17 01:08	75-35-4	
1,2,4-Trichlorobenzene	<19.0	ug/kg	61.8	19.0	1	02/21/17 16:12	02/22/17 01:08	120-82-1	
1,2,4-Trimethylbenzene	<13.6	ug/kg	61.8	13.6	1	02/21/17 16:12	02/22/17 01:08	95-63-6	
1,2-Dibromoethane (EDB)	<23.2	ug/kg	61.8	23.2	1	02/21/17 16:12	02/22/17 01:08	106-93-4	
1,2-Dichlorobenzene	<11.9	ug/kg	61.8	11.9	1	02/21/17 16:12	02/22/17 01:08	95-50-1	
1,2-Dichloroethane	<19.5	ug/kg	61.8	19.5	1	02/21/17 16:12	02/22/17 01:08	107-06-2	
1,3,5-Trimethylbenzene	<14.2	ug/kg	61.8	14.2	1	02/21/17 16:12	02/22/17 01:08	108-67-8	
1,3-Dichlorobenzene	<18.2	ug/kg	61.8	18.2	1	02/21/17 16:12	02/22/17 01:08	541-73-1	
1,4-Dichlorobenzene	<17.9	ug/kg	61.8	17.9	1	02/21/17 16:12	02/22/17 01:08	106-46-7	
2-Butanone (MEK)	<81.6	ug/kg	309	81.6	1	02/21/17 16:12	02/22/17 01:08	78-93-3	M1
2-Hexanone	<72.8	ug/kg	309	72.8	1	02/21/17 16:12	02/22/17 01:08	591-78-6	M1
4-Methyl-2-pentanone (MIBK)	<40.9	ug/kg	309	40.9	1	02/21/17 16:12	02/22/17 01:08	108-10-1	M1
Acetone	<405	ug/kg	1240	405	1	02/21/17 16:12	02/22/17 01:08	67-64-1	
Benzene	<5.3	ug/kg	24.7	5.3	1	02/21/17 16:12	02/22/17 01:08	71-43-2	
Bromodichloromethane	<17.3	ug/kg	61.8	17.3	1	02/21/17 16:12	02/22/17 01:08	75-27-4	
Bromoform	<53.3	ug/kg	247	53.3	1	02/21/17 16:12	02/22/17 01:08	75-25-2	
Bromomethane	<62.7	ug/kg	618	62.7	1	02/21/17 16:12	02/22/17 01:08	74-83-9	
Carbon tetrachloride	<19.4	ug/kg	61.8	19.4	1	02/21/17 16:12	02/22/17 01:08	56-23-5	
Chlorobenzene	<10.8	ug/kg	61.8	10.8	1	02/21/17 16:12	02/22/17 01:08	108-90-7	
Chloroethane	<97.6	ug/kg	618	97.6	1	02/21/17 16:12	02/22/17 01:08	75-00-3	
Chloroform	<30.0	ug/kg	61.8	30.0	1	02/21/17 16:12	02/22/17 01:08	67-66-3	
Chloromethane	<29.9	ug/kg	247	29.9	1	02/21/17 16:12	02/22/17 01:08	74-87-3	
Dibromochloromethane	<53.0	ug/kg	247	53.0	1	02/21/17 16:12	02/22/17 01:08	124-48-1	
Dichlorodifluoromethane	<18.9	ug/kg	247	18.9	1	02/21/17 16:12	02/22/17 01:08	75-71-8	
Ethylbenzene	<19.7	ug/kg	61.8	19.7	1	02/21/17 16:12	02/22/17 01:08	100-41-4	
Hexachloro-1,3-butadiene	<58.1	ug/kg	309	58.1	1	02/21/17 16:12	02/22/17 01:08	87-68-3	
Methyl-tert-butyl ether	<11.6	ug/kg	61.8	11.6	1	02/21/17 16:12	02/22/17 01:08	1634-04-4	
Methylene Chloride	<114	ug/kg	247	114	1	02/21/17 16:12	02/22/17 01:08	75-09-2	
Naphthalene	<15.0	ug/kg	247	15.0	1	02/21/17 16:12	02/22/17 01:08	91-20-3	
Styrene	<16.1	ug/kg	61.8	16.1	1	02/21/17 16:12	02/22/17 01:08	100-42-5	
Tetrachloroethene	<23.6	ug/kg	61.8	23.6	1	02/21/17 16:12	02/22/17 01:08	127-18-4	
Tetrahydrofuran	<307	ug/kg	2470	307	1	02/21/17 16:12	02/22/17 01:08	109-99-9	
Toluene	<19.7	ug/kg	61.8	19.7	1	02/21/17 16:12	02/22/17 01:08	108-88-3	
Trichloroethene	<17.7	ug/kg	61.8	17.7	1	02/21/17 16:12	02/22/17 01:08	79-01-6	
Trichlorofluoromethane	<62.0	ug/kg	247	62.0	1	02/21/17 16:12	02/22/17 01:08	75-69-4	
Vinyl acetate	<65.4	ug/kg	618	65.4	1	02/21/17 16:12	02/22/17 01:08	108-05-4	
Vinyl chloride	<7.9	ug/kg	24.7	7.9	1	02/21/17 16:12	02/22/17 01:08	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB40-SS-95 **Lab ID: 10379430019** Collected: 02/13/17 13:45 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<23.0	ug/kg	61.8	23.0	1	02/21/17 16:12	02/22/17 01:08	156-59-2	M1
cis-1,3-Dichloropropene	<28.2	ug/kg	61.8	28.2	1	02/21/17 16:12	02/22/17 01:08	10061-01-5	
m&p-Xylene	<31.0	ug/kg	124	31.0	1	02/21/17 16:12	02/22/17 01:08	179601-23-1	M1
o-Xylene	<18.4	ug/kg	61.8	18.4	1	02/21/17 16:12	02/22/17 01:08	95-47-6	
trans-1,2-Dichloroethene	<29.8	ug/kg	61.8	29.8	1	02/21/17 16:12	02/22/17 01:08	156-60-5	
trans-1,3-Dichloropropene	<21.0	ug/kg	247	21.0	1	02/21/17 16:12	02/22/17 01:08	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/22/17 01:08	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1	02/21/17 16:12	02/22/17 01:08	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/21/17 16:12	02/22/17 01:08	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SSFD1 **Lab ID: 10379430020** Collected: 02/13/17 08:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	28.1	%	0.10	0.10	1		02/21/17 13:17		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.7	ug/kg	66.4	27.7	1	02/21/17 16:12	02/22/17 01:26	71-55-6	
1,1,2,2-Tetrachloroethane	<14.7	ug/kg	66.4	14.7	1	02/21/17 16:12	02/22/17 01:26	79-34-5	
1,1,2-Trichloroethane	<14.3	ug/kg	66.4	14.3	1	02/21/17 16:12	02/22/17 01:26	79-00-5	
1,1,2-Trichlorotrifluoroethane	<47.8	ug/kg	265	47.8	1	02/21/17 16:12	02/22/17 01:26	76-13-1	
1,1-Dichloroethane	<25.8	ug/kg	66.4	25.8	1	02/21/17 16:12	02/22/17 01:26	75-34-3	
1,1-Dichloroethene	<16.9	ug/kg	66.4	16.9	1	02/21/17 16:12	02/22/17 01:26	75-35-4	
1,2,4-Trichlorobenzene	<20.4	ug/kg	66.4	20.4	1	02/21/17 16:12	02/22/17 01:26	120-82-1	
1,2,4-Trimethylbenzene	<14.6	ug/kg	66.4	14.6	1	02/21/17 16:12	02/22/17 01:26	95-63-6	
1,2-Dibromoethane (EDB)	<25.0	ug/kg	66.4	25.0	1	02/21/17 16:12	02/22/17 01:26	106-93-4	
1,2-Dichlorobenzene	<12.8	ug/kg	66.4	12.8	1	02/21/17 16:12	02/22/17 01:26	95-50-1	
1,2-Dichloroethane	<21.0	ug/kg	66.4	21.0	1	02/21/17 16:12	02/22/17 01:26	107-06-2	
1,3,5-Trimethylbenzene	<15.3	ug/kg	66.4	15.3	1	02/21/17 16:12	02/22/17 01:26	108-67-8	
1,3-Dichlorobenzene	<19.5	ug/kg	66.4	19.5	1	02/21/17 16:12	02/22/17 01:26	541-73-1	
1,4-Dichlorobenzene	<19.2	ug/kg	66.4	19.2	1	02/21/17 16:12	02/22/17 01:26	106-46-7	
2-Butanone (MEK)	<87.6	ug/kg	332	87.6	1	02/21/17 16:12	02/22/17 01:26	78-93-3	
2-Hexanone	<78.2	ug/kg	332	78.2	1	02/21/17 16:12	02/22/17 01:26	591-78-6	
4-Methyl-2-pentanone (MIBK)	<43.9	ug/kg	332	43.9	1	02/21/17 16:12	02/22/17 01:26	108-10-1	
Acetone	<435	ug/kg	1330	435	1	02/21/17 16:12	02/22/17 01:26	67-64-1	
Benzene	<5.7	ug/kg	26.5	5.7	1	02/21/17 16:12	02/22/17 01:26	71-43-2	
Bromodichloromethane	<18.6	ug/kg	66.4	18.6	1	02/21/17 16:12	02/22/17 01:26	75-27-4	
Bromoform	<57.2	ug/kg	265	57.2	1	02/21/17 16:12	02/22/17 01:26	75-25-2	
Bromomethane	<67.3	ug/kg	66.4	67.3	1	02/21/17 16:12	02/22/17 01:26	74-83-9	
Carbon tetrachloride	<20.8	ug/kg	66.4	20.8	1	02/21/17 16:12	02/22/17 01:26	56-23-5	
Chlorobenzene	<11.5	ug/kg	66.4	11.5	1	02/21/17 16:12	02/22/17 01:26	108-90-7	
Chloroethane	<105	ug/kg	66.4	105	1	02/21/17 16:12	02/22/17 01:26	75-00-3	
Chloroform	<32.3	ug/kg	66.4	32.3	1	02/21/17 16:12	02/22/17 01:26	67-66-3	
Chloromethane	<32.1	ug/kg	265	32.1	1	02/21/17 16:12	02/22/17 01:26	74-87-3	
Dibromochloromethane	<56.9	ug/kg	265	56.9	1	02/21/17 16:12	02/22/17 01:26	124-48-1	
Dichlorodifluoromethane	<20.3	ug/kg	265	20.3	1	02/21/17 16:12	02/22/17 01:26	75-71-8	
Ethylbenzene	<21.1	ug/kg	66.4	21.1	1	02/21/17 16:12	02/22/17 01:26	100-41-4	
Hexachloro-1,3-butadiene	<62.4	ug/kg	332	62.4	1	02/21/17 16:12	02/22/17 01:26	87-68-3	
Methyl-tert-butyl ether	<12.4	ug/kg	66.4	12.4	1	02/21/17 16:12	02/22/17 01:26	1634-04-4	
Methylene Chloride	<123	ug/kg	265	123	1	02/21/17 16:12	02/22/17 01:26	75-09-2	
Naphthalene	<16.1	ug/kg	265	16.1	1	02/21/17 16:12	02/22/17 01:26	91-20-3	
Styrene	<17.3	ug/kg	66.4	17.3	1	02/21/17 16:12	02/22/17 01:26	100-42-5	
Tetrachloroethene	<25.4	ug/kg	66.4	25.4	1	02/21/17 16:12	02/22/17 01:26	127-18-4	
Tetrahydrofuran	<329	ug/kg	2650	329	1	02/21/17 16:12	02/22/17 01:26	109-99-9	
Toluene	<21.1	ug/kg	66.4	21.1	1	02/21/17 16:12	02/22/17 01:26	108-88-3	
Trichloroethene	<19.0	ug/kg	66.4	19.0	1	02/21/17 16:12	02/22/17 01:26	79-01-6	
Trichlorofluoromethane	<66.6	ug/kg	265	66.6	1	02/21/17 16:12	02/22/17 01:26	75-69-4	
Vinyl acetate	<70.2	ug/kg	66.4	70.2	1	02/21/17 16:12	02/22/17 01:26	108-05-4	
Vinyl chloride	<8.5	ug/kg	26.5	8.5	1	02/21/17 16:12	02/22/17 01:26	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SSFD1 **Lab ID: 10379430020** Collected: 02/13/17 08:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.7	ug/kg	66.4	24.7	1	02/21/17 16:12	02/22/17 01:26	156-59-2	
cis-1,3-Dichloropropene	<30.3	ug/kg	66.4	30.3	1	02/21/17 16:12	02/22/17 01:26	10061-01-5	
m&p-Xylene	<33.3	ug/kg	133	33.3	1	02/21/17 16:12	02/22/17 01:26	179601-23-1	
o-Xylene	<19.8	ug/kg	66.4	19.8	1	02/21/17 16:12	02/22/17 01:26	95-47-6	
trans-1,2-Dichloroethene	<32.0	ug/kg	66.4	32.0	1	02/21/17 16:12	02/22/17 01:26	156-60-5	
trans-1,3-Dichloropropene	<22.6	ug/kg	265	22.6	1	02/21/17 16:12	02/22/17 01:26	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/22/17 01:26	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1	02/21/17 16:12	02/22/17 01:26	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/21/17 16:12	02/22/17 01:26	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SSFD2 **Lab ID: 10379430021** Collected: 02/13/17 09:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	16.1	%	0.10	0.10	1		02/21/17 13:18		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<24.0	ug/kg	57.5	24.0	1	02/21/17 16:12	02/22/17 02:03	71-55-6	
1,1,2,2-Tetrachloroethane	<12.8	ug/kg	57.5	12.8	1	02/21/17 16:12	02/22/17 02:03	79-34-5	
1,1,2-Trichloroethane	<12.4	ug/kg	57.5	12.4	1	02/21/17 16:12	02/22/17 02:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<41.4	ug/kg	230	41.4	1	02/21/17 16:12	02/22/17 02:03	76-13-1	
1,1-Dichloroethane	<22.3	ug/kg	57.5	22.3	1	02/21/17 16:12	02/22/17 02:03	75-34-3	
1,1-Dichloroethene	<14.6	ug/kg	57.5	14.6	1	02/21/17 16:12	02/22/17 02:03	75-35-4	
1,2,4-Trichlorobenzene	<17.7	ug/kg	57.5	17.7	1	02/21/17 16:12	02/22/17 02:03	120-82-1	
1,2,4-Trimethylbenzene	<12.7	ug/kg	57.5	12.7	1	02/21/17 16:12	02/22/17 02:03	95-63-6	
1,2-Dibromoethane (EDB)	<21.6	ug/kg	57.5	21.6	1	02/21/17 16:12	02/22/17 02:03	106-93-4	
1,2-Dichlorobenzene	<11.1	ug/kg	57.5	11.1	1	02/21/17 16:12	02/22/17 02:03	95-50-1	
1,2-Dichloroethane	<18.2	ug/kg	57.5	18.2	1	02/21/17 16:12	02/22/17 02:03	107-06-2	
1,3,5-Trimethylbenzene	<13.2	ug/kg	57.5	13.2	1	02/21/17 16:12	02/22/17 02:03	108-67-8	
1,3-Dichlorobenzene	<16.9	ug/kg	57.5	16.9	1	02/21/17 16:12	02/22/17 02:03	541-73-1	
1,4-Dichlorobenzene	<16.7	ug/kg	57.5	16.7	1	02/21/17 16:12	02/22/17 02:03	106-46-7	
2-Butanone (MEK)	<75.9	ug/kg	288	75.9	1	02/21/17 16:12	02/22/17 02:03	78-93-3	
2-Hexanone	<67.7	ug/kg	288	67.7	1	02/21/17 16:12	02/22/17 02:03	591-78-6	
4-Methyl-2-pentanone (MIBK)	<38.1	ug/kg	288	38.1	1	02/21/17 16:12	02/22/17 02:03	108-10-1	
Acetone	<377	ug/kg	1150	377	1	02/21/17 16:12	02/22/17 02:03	67-64-1	
Benzene	<5.0	ug/kg	23.0	5.0	1	02/21/17 16:12	02/22/17 02:03	71-43-2	
Bromodichloromethane	<16.1	ug/kg	57.5	16.1	1	02/21/17 16:12	02/22/17 02:03	75-27-4	
Bromoform	<49.6	ug/kg	230	49.6	1	02/21/17 16:12	02/22/17 02:03	75-25-2	
Bromomethane	<58.3	ug/kg	575	58.3	1	02/21/17 16:12	02/22/17 02:03	74-83-9	
Carbon tetrachloride	<18.1	ug/kg	57.5	18.1	1	02/21/17 16:12	02/22/17 02:03	56-23-5	
Chlorobenzene	<10.0	ug/kg	57.5	10.0	1	02/21/17 16:12	02/22/17 02:03	108-90-7	
Chloroethane	<90.9	ug/kg	575	90.9	1	02/21/17 16:12	02/22/17 02:03	75-00-3	
Chloroform	<27.9	ug/kg	57.5	27.9	1	02/21/17 16:12	02/22/17 02:03	67-66-3	
Chloromethane	<27.8	ug/kg	230	27.8	1	02/21/17 16:12	02/22/17 02:03	74-87-3	
Dibromochloromethane	<49.3	ug/kg	230	49.3	1	02/21/17 16:12	02/22/17 02:03	124-48-1	
Dichlorodifluoromethane	<17.6	ug/kg	230	17.6	1	02/21/17 16:12	02/22/17 02:03	75-71-8	
Ethylbenzene	<18.3	ug/kg	57.5	18.3	1	02/21/17 16:12	02/22/17 02:03	100-41-4	
Hexachloro-1,3-butadiene	<54.1	ug/kg	288	54.1	1	02/21/17 16:12	02/22/17 02:03	87-68-3	
Methyl-tert-butyl ether	<10.8	ug/kg	57.5	10.8	1	02/21/17 16:12	02/22/17 02:03	1634-04-4	
Methylene Chloride	<106	ug/kg	230	106	1	02/21/17 16:12	02/22/17 02:03	75-09-2	
Naphthalene	<13.9	ug/kg	230	13.9	1	02/21/17 16:12	02/22/17 02:03	91-20-3	
Styrene	<15.0	ug/kg	57.5	15.0	1	02/21/17 16:12	02/22/17 02:03	100-42-5	
Tetrachloroethene	<22.0	ug/kg	57.5	22.0	1	02/21/17 16:12	02/22/17 02:03	127-18-4	
Tetrahydrofuran	<285	ug/kg	2300	285	1	02/21/17 16:12	02/22/17 02:03	109-99-9	
Toluene	<18.3	ug/kg	57.5	18.3	1	02/21/17 16:12	02/22/17 02:03	108-88-3	
Trichloroethene	<16.4	ug/kg	57.5	16.4	1	02/21/17 16:12	02/22/17 02:03	79-01-6	
Trichlorofluoromethane	<57.7	ug/kg	230	57.7	1	02/21/17 16:12	02/22/17 02:03	75-69-4	
Vinyl acetate	<60.8	ug/kg	575	60.8	1	02/21/17 16:12	02/22/17 02:03	108-05-4	
Vinyl chloride	<7.4	ug/kg	23.0	7.4	1	02/21/17 16:12	02/22/17 02:03	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SSFD2 **Lab ID: 10379430021** Collected: 02/13/17 09:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<21.4	ug/kg	57.5	21.4	1	02/21/17 16:12	02/22/17 02:03	156-59-2	
cis-1,3-Dichloropropene	<26.2	ug/kg	57.5	26.2	1	02/21/17 16:12	02/22/17 02:03	10061-01-5	
m&p-Xylene	<28.9	ug/kg	115	28.9	1	02/21/17 16:12	02/22/17 02:03	179601-23-1	
o-Xylene	<17.1	ug/kg	57.5	17.1	1	02/21/17 16:12	02/22/17 02:03	95-47-6	
trans-1,2-Dichloroethene	<27.7	ug/kg	57.5	27.7	1	02/21/17 16:12	02/22/17 02:03	156-60-5	
trans-1,3-Dichloropropene	<19.6	ug/kg	230	19.6	1	02/21/17 16:12	02/22/17 02:03	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/22/17 02:03	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 02:03	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/21/17 16:12	02/22/17 02:03	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB41-SS-05** Lab ID: **10379430022** Collected: 02/14/17 08:50 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	14.1	%	0.10	0.10	1		02/21/17 13:18		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.9	ug/kg	57.1	23.9	1	02/21/17 16:12	02/22/17 02:21	71-55-6	
1,1,2,2-Tetrachloroethane	<12.7	ug/kg	57.1	12.7	1	02/21/17 16:12	02/22/17 02:21	79-34-5	
1,1,2-Trichloroethane	<12.3	ug/kg	57.1	12.3	1	02/21/17 16:12	02/22/17 02:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<41.1	ug/kg	229	41.1	1	02/21/17 16:12	02/22/17 02:21	76-13-1	
1,1-Dichloroethane	<22.2	ug/kg	57.1	22.2	1	02/21/17 16:12	02/22/17 02:21	75-34-3	
1,1-Dichloroethene	<14.5	ug/kg	57.1	14.5	1	02/21/17 16:12	02/22/17 02:21	75-35-4	
1,2,4-Trichlorobenzene	<17.6	ug/kg	57.1	17.6	1	02/21/17 16:12	02/22/17 02:21	120-82-1	
1,2,4-Trimethylbenzene	<12.6	ug/kg	57.1	12.6	1	02/21/17 16:12	02/22/17 02:21	95-63-6	
1,2-Dibromoethane (EDB)	<21.5	ug/kg	57.1	21.5	1	02/21/17 16:12	02/22/17 02:21	106-93-4	
1,2-Dichlorobenzene	<11.0	ug/kg	57.1	11.0	1	02/21/17 16:12	02/22/17 02:21	95-50-1	
1,2-Dichloroethane	<18.1	ug/kg	57.1	18.1	1	02/21/17 16:12	02/22/17 02:21	107-06-2	
1,3,5-Trimethylbenzene	<13.1	ug/kg	57.1	13.1	1	02/21/17 16:12	02/22/17 02:21	108-67-8	
1,3-Dichlorobenzene	<16.8	ug/kg	57.1	16.8	1	02/21/17 16:12	02/22/17 02:21	541-73-1	
1,4-Dichlorobenzene	<16.6	ug/kg	57.1	16.6	1	02/21/17 16:12	02/22/17 02:21	106-46-7	
2-Butanone (MEK)	<75.4	ug/kg	286	75.4	1	02/21/17 16:12	02/22/17 02:21	78-93-3	
2-Hexanone	<67.3	ug/kg	286	67.3	1	02/21/17 16:12	02/22/17 02:21	591-78-6	
4-Methyl-2-pentanone (MIBK)	<37.8	ug/kg	286	37.8	1	02/21/17 16:12	02/22/17 02:21	108-10-1	
Acetone	<375	ug/kg	1140	375	1	02/21/17 16:12	02/22/17 02:21	67-64-1	
Benzene	<4.9	ug/kg	22.9	4.9	1	02/21/17 16:12	02/22/17 02:21	71-43-2	
Bromodichloromethane	<16.0	ug/kg	57.1	16.0	1	02/21/17 16:12	02/22/17 02:21	75-27-4	
Bromoform	<49.2	ug/kg	229	49.2	1	02/21/17 16:12	02/22/17 02:21	75-25-2	
Bromomethane	<57.9	ug/kg	571	57.9	1	02/21/17 16:12	02/22/17 02:21	74-83-9	
Carbon tetrachloride	<17.9	ug/kg	57.1	17.9	1	02/21/17 16:12	02/22/17 02:21	56-23-5	
Chlorobenzene	<9.9	ug/kg	57.1	9.9	1	02/21/17 16:12	02/22/17 02:21	108-90-7	
Chloroethane	<90.3	ug/kg	571	90.3	1	02/21/17 16:12	02/22/17 02:21	75-00-3	
Chloroform	<27.8	ug/kg	57.1	27.8	1	02/21/17 16:12	02/22/17 02:21	67-66-3	
Chloromethane	<27.7	ug/kg	229	27.7	1	02/21/17 16:12	02/22/17 02:21	74-87-3	
Dibromochloromethane	<49.0	ug/kg	229	49.0	1	02/21/17 16:12	02/22/17 02:21	124-48-1	
Dichlorodifluoromethane	<17.5	ug/kg	229	17.5	1	02/21/17 16:12	02/22/17 02:21	75-71-8	
Ethylbenzene	<18.2	ug/kg	57.1	18.2	1	02/21/17 16:12	02/22/17 02:21	100-41-4	
Hexachloro-1,3-butadiene	<53.7	ug/kg	286	53.7	1	02/21/17 16:12	02/22/17 02:21	87-68-3	
Methyl-tert-butyl ether	<10.7	ug/kg	57.1	10.7	1	02/21/17 16:12	02/22/17 02:21	1634-04-4	
Methylene Chloride	<106	ug/kg	229	106	1	02/21/17 16:12	02/22/17 02:21	75-09-2	
Naphthalene	<13.8	ug/kg	229	13.8	1	02/21/17 16:12	02/22/17 02:21	91-20-3	
Styrene	<14.9	ug/kg	57.1	14.9	1	02/21/17 16:12	02/22/17 02:21	100-42-5	
Tetrachloroethene	<21.8	ug/kg	57.1	21.8	1	02/21/17 16:12	02/22/17 02:21	127-18-4	
Tetrahydrofuran	<283	ug/kg	2290	283	1	02/21/17 16:12	02/22/17 02:21	109-99-9	
Toluene	<18.2	ug/kg	57.1	18.2	1	02/21/17 16:12	02/22/17 02:21	108-88-3	
Trichloroethene	<16.3	ug/kg	57.1	16.3	1	02/21/17 16:12	02/22/17 02:21	79-01-6	
Trichlorofluoromethane	<57.4	ug/kg	229	57.4	1	02/21/17 16:12	02/22/17 02:21	75-69-4	
Vinyl acetate	<60.4	ug/kg	571	60.4	1	02/21/17 16:12	02/22/17 02:21	108-05-4	
Vinyl chloride	<7.3	ug/kg	22.9	7.3	1	02/21/17 16:12	02/22/17 02:21	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-05 **Lab ID: 10379430022** Collected: 02/14/17 08:50 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<21.3	ug/kg	57.1	21.3	1	02/21/17 16:12	02/22/17 02:21	156-59-2	
cis-1,3-Dichloropropene	<26.1	ug/kg	57.1	26.1	1	02/21/17 16:12	02/22/17 02:21	10061-01-5	
m&p-Xylene	<28.7	ug/kg	114	28.7	1	02/21/17 16:12	02/22/17 02:21	179601-23-1	
o-Xylene	<17.0	ug/kg	57.1	17.0	1	02/21/17 16:12	02/22/17 02:21	95-47-6	
trans-1,2-Dichloroethene	<27.5	ug/kg	57.1	27.5	1	02/21/17 16:12	02/22/17 02:21	156-60-5	
trans-1,3-Dichloropropene	<19.4	ug/kg	229	19.4	1	02/21/17 16:12	02/22/17 02:21	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/22/17 02:21	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 02:21	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 02:21	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-10 **Lab ID: 10379430023** Collected: 02/14/17 09:05 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	12.5	%	0.10	0.10	1		02/21/17 13:18		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<25.6	ug/kg	61.3	25.6	1	02/21/17 16:12	02/22/17 02:39	71-55-6	
1,1,2,2-Tetrachloroethane	<13.6	ug/kg	61.3	13.6	1	02/21/17 16:12	02/22/17 02:39	79-34-5	
1,1,2-Trichloroethane	<13.2	ug/kg	61.3	13.2	1	02/21/17 16:12	02/22/17 02:39	79-00-5	
1,1,2-Trichlorotrifluoroethane	<44.2	ug/kg	245	44.2	1	02/21/17 16:12	02/22/17 02:39	76-13-1	
1,1-Dichloroethane	<23.8	ug/kg	61.3	23.8	1	02/21/17 16:12	02/22/17 02:39	75-34-3	
1,1-Dichloroethene	<15.6	ug/kg	61.3	15.6	1	02/21/17 16:12	02/22/17 02:39	75-35-4	
1,2,4-Trichlorobenzene	<18.9	ug/kg	61.3	18.9	1	02/21/17 16:12	02/22/17 02:39	120-82-1	
1,2,4-Trimethylbenzene	<13.5	ug/kg	61.3	13.5	1	02/21/17 16:12	02/22/17 02:39	95-63-6	
1,2-Dibromoethane (EDB)	<23.1	ug/kg	61.3	23.1	1	02/21/17 16:12	02/22/17 02:39	106-93-4	
1,2-Dichlorobenzene	<11.9	ug/kg	61.3	11.9	1	02/21/17 16:12	02/22/17 02:39	95-50-1	
1,2-Dichloroethane	<19.4	ug/kg	61.3	19.4	1	02/21/17 16:12	02/22/17 02:39	107-06-2	
1,3,5-Trimethylbenzene	<14.1	ug/kg	61.3	14.1	1	02/21/17 16:12	02/22/17 02:39	108-67-8	
1,3-Dichlorobenzene	<18.0	ug/kg	61.3	18.0	1	02/21/17 16:12	02/22/17 02:39	541-73-1	
1,4-Dichlorobenzene	<17.8	ug/kg	61.3	17.8	1	02/21/17 16:12	02/22/17 02:39	106-46-7	
2-Butanone (MEK)	<81.0	ug/kg	307	81.0	1	02/21/17 16:12	02/22/17 02:39	78-93-3	
2-Hexanone	<72.3	ug/kg	307	72.3	1	02/21/17 16:12	02/22/17 02:39	591-78-6	
4-Methyl-2-pentanone (MIBK)	<40.6	ug/kg	307	40.6	1	02/21/17 16:12	02/22/17 02:39	108-10-1	
Acetone	<402	ug/kg	1230	402	1	02/21/17 16:12	02/22/17 02:39	67-64-1	
Benzene	<5.3	ug/kg	24.5	5.3	1	02/21/17 16:12	02/22/17 02:39	71-43-2	
Bromodichloromethane	<17.2	ug/kg	61.3	17.2	1	02/21/17 16:12	02/22/17 02:39	75-27-4	
Bromoform	<52.9	ug/kg	245	52.9	1	02/21/17 16:12	02/22/17 02:39	75-25-2	
Bromomethane	<62.2	ug/kg	613	62.2	1	02/21/17 16:12	02/22/17 02:39	74-83-9	
Carbon tetrachloride	<19.3	ug/kg	61.3	19.3	1	02/21/17 16:12	02/22/17 02:39	56-23-5	
Chlorobenzene	<10.7	ug/kg	61.3	10.7	1	02/21/17 16:12	02/22/17 02:39	108-90-7	
Chloroethane	<96.9	ug/kg	613	96.9	1	02/21/17 16:12	02/22/17 02:39	75-00-3	
Chloroform	<29.8	ug/kg	61.3	29.8	1	02/21/17 16:12	02/22/17 02:39	67-66-3	
Chloromethane	<29.7	ug/kg	245	29.7	1	02/21/17 16:12	02/22/17 02:39	74-87-3	
Dibromochloromethane	<52.6	ug/kg	245	52.6	1	02/21/17 16:12	02/22/17 02:39	124-48-1	
Dichlorodifluoromethane	<18.8	ug/kg	245	18.8	1	02/21/17 16:12	02/22/17 02:39	75-71-8	
Ethylbenzene	<19.5	ug/kg	61.3	19.5	1	02/21/17 16:12	02/22/17 02:39	100-41-4	
Hexachloro-1,3-butadiene	<57.7	ug/kg	307	57.7	1	02/21/17 16:12	02/22/17 02:39	87-68-3	
Methyl-tert-butyl ether	<11.5	ug/kg	61.3	11.5	1	02/21/17 16:12	02/22/17 02:39	1634-04-4	
Methylene Chloride	<114	ug/kg	245	114	1	02/21/17 16:12	02/22/17 02:39	75-09-2	
Naphthalene	<14.8	ug/kg	245	14.8	1	02/21/17 16:12	02/22/17 02:39	91-20-3	
Styrene	<15.9	ug/kg	61.3	15.9	1	02/21/17 16:12	02/22/17 02:39	100-42-5	
Tetrachloroethene	<23.4	ug/kg	61.3	23.4	1	02/21/17 16:12	02/22/17 02:39	127-18-4	
Tetrahydrofuran	<304	ug/kg	2450	304	1	02/21/17 16:12	02/22/17 02:39	109-99-9	
Toluene	<19.5	ug/kg	61.3	19.5	1	02/21/17 16:12	02/22/17 02:39	108-88-3	
Trichloroethene	<17.5	ug/kg	61.3	17.5	1	02/21/17 16:12	02/22/17 02:39	79-01-6	
Trichlorofluoromethane	<61.6	ug/kg	245	61.6	1	02/21/17 16:12	02/22/17 02:39	75-69-4	
Vinyl acetate	<64.9	ug/kg	613	64.9	1	02/21/17 16:12	02/22/17 02:39	108-05-4	
Vinyl chloride	<7.9	ug/kg	24.5	7.9	1	02/21/17 16:12	02/22/17 02:39	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-10 **Lab ID: 10379430023** Collected: 02/14/17 09:05 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<22.8	ug/kg	61.3	22.8	1	02/21/17 16:12	02/22/17 02:39	156-59-2	
cis-1,3-Dichloropropene	<28.0	ug/kg	61.3	28.0	1	02/21/17 16:12	02/22/17 02:39	10061-01-5	
m&p-Xylene	<30.8	ug/kg	123	30.8	1	02/21/17 16:12	02/22/17 02:39	179601-23-1	
o-Xylene	<18.3	ug/kg	61.3	18.3	1	02/21/17 16:12	02/22/17 02:39	95-47-6	
trans-1,2-Dichloroethene	<29.6	ug/kg	61.3	29.6	1	02/21/17 16:12	02/22/17 02:39	156-60-5	
trans-1,3-Dichloropropene	<20.9	ug/kg	245	20.9	1	02/21/17 16:12	02/22/17 02:39	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-129		1	02/21/17 16:12	02/22/17 02:39	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1	02/21/17 16:12	02/22/17 02:39	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 02:39	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-15 **Lab ID: 10379430024** Collected: 02/14/17 09:10 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	27.6	%	0.10	0.10	1		02/21/17 13:18		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<27.0	ug/kg	64.7	27.0	1	02/21/17 16:12	02/22/17 02:57	71-55-6	
1,1,2,2-Tetrachloroethane	<14.4	ug/kg	64.7	14.4	1	02/21/17 16:12	02/22/17 02:57	79-34-5	
1,1,2-Trichloroethane	<14.0	ug/kg	64.7	14.0	1	02/21/17 16:12	02/22/17 02:57	79-00-5	
1,1,2-Trichlorotrifluoroethane	<46.6	ug/kg	259	46.6	1	02/21/17 16:12	02/22/17 02:57	76-13-1	
1,1-Dichloroethane	<25.1	ug/kg	64.7	25.1	1	02/21/17 16:12	02/22/17 02:57	75-34-3	
1,1-Dichloroethene	<16.4	ug/kg	64.7	16.4	1	02/21/17 16:12	02/22/17 02:57	75-35-4	
1,2,4-Trichlorobenzene	<19.9	ug/kg	64.7	19.9	1	02/21/17 16:12	02/22/17 02:57	120-82-1	
1,2,4-Trimethylbenzene	<14.2	ug/kg	64.7	14.2	1	02/21/17 16:12	02/22/17 02:57	95-63-6	
1,2-Dibromoethane (EDB)	<24.3	ug/kg	64.7	24.3	1	02/21/17 16:12	02/22/17 02:57	106-93-4	
1,2-Dichlorobenzene	<12.5	ug/kg	64.7	12.5	1	02/21/17 16:12	02/22/17 02:57	95-50-1	
1,2-Dichloroethane	<20.4	ug/kg	64.7	20.4	1	02/21/17 16:12	02/22/17 02:57	107-06-2	
1,3,5-Trimethylbenzene	<14.9	ug/kg	64.7	14.9	1	02/21/17 16:12	02/22/17 02:57	108-67-8	
1,3-Dichlorobenzene	<19.0	ug/kg	64.7	19.0	1	02/21/17 16:12	02/22/17 02:57	541-73-1	
1,4-Dichlorobenzene	<18.8	ug/kg	64.7	18.8	1	02/21/17 16:12	02/22/17 02:57	106-46-7	
2-Butanone (MEK)	<85.4	ug/kg	323	85.4	1	02/21/17 16:12	02/22/17 02:57	78-93-3	
2-Hexanone	<76.2	ug/kg	323	76.2	1	02/21/17 16:12	02/22/17 02:57	591-78-6	
4-Methyl-2-pentanone (MIBK)	<42.8	ug/kg	323	42.8	1	02/21/17 16:12	02/22/17 02:57	108-10-1	
Acetone	<424	ug/kg	1290	424	1	02/21/17 16:12	02/22/17 02:57	67-64-1	
Benzene	<5.6	ug/kg	25.9	5.6	1	02/21/17 16:12	02/22/17 02:57	71-43-2	
Bromodichloromethane	<18.1	ug/kg	64.7	18.1	1	02/21/17 16:12	02/22/17 02:57	75-27-4	
Bromoform	<55.8	ug/kg	259	55.8	1	02/21/17 16:12	02/22/17 02:57	75-25-2	
Bromomethane	<65.6	ug/kg	64.7	65.6	1	02/21/17 16:12	02/22/17 02:57	74-83-9	
Carbon tetrachloride	<20.3	ug/kg	64.7	20.3	1	02/21/17 16:12	02/22/17 02:57	56-23-5	
Chlorobenzene	<11.3	ug/kg	64.7	11.3	1	02/21/17 16:12	02/22/17 02:57	108-90-7	
Chloroethane	<102	ug/kg	64.7	102	1	02/21/17 16:12	02/22/17 02:57	75-00-3	
Chloroform	<31.4	ug/kg	64.7	31.4	1	02/21/17 16:12	02/22/17 02:57	67-66-3	
Chloromethane	<31.3	ug/kg	259	31.3	1	02/21/17 16:12	02/22/17 02:57	74-87-3	
Dibromochloromethane	<55.5	ug/kg	259	55.5	1	02/21/17 16:12	02/22/17 02:57	124-48-1	
Dichlorodifluoromethane	<19.8	ug/kg	259	19.8	1	02/21/17 16:12	02/22/17 02:57	75-71-8	
Ethylbenzene	<20.6	ug/kg	64.7	20.6	1	02/21/17 16:12	02/22/17 02:57	100-41-4	
Hexachloro-1,3-butadiene	<60.8	ug/kg	323	60.8	1	02/21/17 16:12	02/22/17 02:57	87-68-3	
Methyl-tert-butyl ether	<12.1	ug/kg	64.7	12.1	1	02/21/17 16:12	02/22/17 02:57	1634-04-4	
Methylene Chloride	<120	ug/kg	259	120	1	02/21/17 16:12	02/22/17 02:57	75-09-2	
Naphthalene	<15.7	ug/kg	259	15.7	1	02/21/17 16:12	02/22/17 02:57	91-20-3	
Styrene	<16.8	ug/kg	64.7	16.8	1	02/21/17 16:12	02/22/17 02:57	100-42-5	
Tetrachloroethene	<24.7	ug/kg	64.7	24.7	1	02/21/17 16:12	02/22/17 02:57	127-18-4	
Tetrahydrofuran	<321	ug/kg	2590	321	1	02/21/17 16:12	02/22/17 02:57	109-99-9	
Toluene	<20.6	ug/kg	64.7	20.6	1	02/21/17 16:12	02/22/17 02:57	108-88-3	
Trichloroethene	<18.5	ug/kg	64.7	18.5	1	02/21/17 16:12	02/22/17 02:57	79-01-6	
Trichlorofluoromethane	<64.9	ug/kg	259	64.9	1	02/21/17 16:12	02/22/17 02:57	75-69-4	
Vinyl acetate	<68.4	ug/kg	64.7	68.4	1	02/21/17 16:12	02/22/17 02:57	108-05-4	
Vinyl chloride	<8.3	ug/kg	25.9	8.3	1	02/21/17 16:12	02/22/17 02:57	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-15 **Lab ID: 10379430024** Collected: 02/14/17 09:10 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<24.1	ug/kg	64.7	24.1	1	02/21/17 16:12	02/22/17 02:57	156-59-2	
cis-1,3-Dichloropropene	<29.5	ug/kg	64.7	29.5	1	02/21/17 16:12	02/22/17 02:57	10061-01-5	
m&p-Xylene	<32.5	ug/kg	129	32.5	1	02/21/17 16:12	02/22/17 02:57	179601-23-1	
o-Xylene	<19.3	ug/kg	64.7	19.3	1	02/21/17 16:12	02/22/17 02:57	95-47-6	
trans-1,2-Dichloroethene	<31.2	ug/kg	64.7	31.2	1	02/21/17 16:12	02/22/17 02:57	156-60-5	
trans-1,3-Dichloropropene	<22.0	ug/kg	259	22.0	1	02/21/17 16:12	02/22/17 02:57	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-129		1	02/21/17 16:12	02/22/17 02:57	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 02:57	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 02:57	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB41-SS-20** Lab ID: **10379430025** Collected: 02/14/17 09:20 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	37.2	%	0.10	0.10	1		02/21/17 13:19		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<34.2	ug/kg	81.7	34.2	1	02/21/17 16:12	02/21/17 21:28	71-55-6	
1,1,2,2-Tetrachloroethane	<18.1	ug/kg	81.7	18.1	1	02/21/17 16:12	02/21/17 21:28	79-34-5	
1,1,2-Trichloroethane	<17.7	ug/kg	81.7	17.7	1	02/21/17 16:12	02/21/17 21:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<58.9	ug/kg	327	58.9	1	02/21/17 16:12	02/21/17 21:28	76-13-1	
1,1-Dichloroethane	<31.7	ug/kg	81.7	31.7	1	02/21/17 16:12	02/21/17 21:28	75-34-3	
1,1-Dichloroethene	<20.8	ug/kg	81.7	20.8	1	02/21/17 16:12	02/21/17 21:28	75-35-4	
1,2,4-Trichlorobenzene	<25.2	ug/kg	81.7	25.2	1	02/21/17 16:12	02/21/17 21:28	120-82-1	
1,2,4-Trimethylbenzene	<18.0	ug/kg	81.7	18.0	1	02/21/17 16:12	02/21/17 21:28	95-63-6	
1,2-Dibromoethane (EDB)	<30.7	ug/kg	81.7	30.7	1	02/21/17 16:12	02/21/17 21:28	106-93-4	
1,2-Dichlorobenzene	<15.8	ug/kg	81.7	15.8	1	02/21/17 16:12	02/21/17 21:28	95-50-1	
1,2-Dichloroethane	<25.8	ug/kg	81.7	25.8	1	02/21/17 16:12	02/21/17 21:28	107-06-2	
1,3,5-Trimethylbenzene	<18.8	ug/kg	81.7	18.8	1	02/21/17 16:12	02/21/17 21:28	108-67-8	
1,3-Dichlorobenzene	<24.0	ug/kg	81.7	24.0	1	02/21/17 16:12	02/21/17 21:28	541-73-1	
1,4-Dichlorobenzene	<23.7	ug/kg	81.7	23.7	1	02/21/17 16:12	02/21/17 21:28	106-46-7	
2-Butanone (MEK)	<108	ug/kg	409	108	1	02/21/17 16:12	02/21/17 21:28	78-93-3	
2-Hexanone	<96.3	ug/kg	409	96.3	1	02/21/17 16:12	02/21/17 21:28	591-78-6	
4-Methyl-2-pentanone (MIBK)	<54.1	ug/kg	409	54.1	1	02/21/17 16:12	02/21/17 21:28	108-10-1	
Acetone	<536	ug/kg	1630	536	1	02/21/17 16:12	02/21/17 21:28	67-64-1	
Benzene	<7.1	ug/kg	32.7	7.1	1	02/21/17 16:12	02/21/17 21:28	71-43-2	
Bromodichloromethane	<22.9	ug/kg	81.7	22.9	1	02/21/17 16:12	02/21/17 21:28	75-27-4	
Bromoform	<70.5	ug/kg	327	70.5	1	02/21/17 16:12	02/21/17 21:28	75-25-2	
Bromomethane	<82.9	ug/kg	81.7	82.9	1	02/21/17 16:12	02/21/17 21:28	74-83-9	
Carbon tetrachloride	<25.7	ug/kg	81.7	25.7	1	02/21/17 16:12	02/21/17 21:28	56-23-5	
Chlorobenzene	<14.2	ug/kg	81.7	14.2	1	02/21/17 16:12	02/21/17 21:28	108-90-7	
Chloroethane	<129	ug/kg	81.7	129	1	02/21/17 16:12	02/21/17 21:28	75-00-3	
Chloroform	<39.7	ug/kg	81.7	39.7	1	02/21/17 16:12	02/21/17 21:28	67-66-3	
Chloromethane	<39.6	ug/kg	327	39.6	1	02/21/17 16:12	02/21/17 21:28	74-87-3	
Dibromochloromethane	<70.1	ug/kg	327	70.1	1	02/21/17 16:12	02/21/17 21:28	124-48-1	
Dichlorodifluoromethane	<25.0	ug/kg	327	25.0	1	02/21/17 16:12	02/21/17 21:28	75-71-8	
Ethylbenzene	<26.0	ug/kg	81.7	26.0	1	02/21/17 16:12	02/21/17 21:28	100-41-4	
Hexachloro-1,3-butadiene	<76.8	ug/kg	409	76.8	1	02/21/17 16:12	02/21/17 21:28	87-68-3	
Methyl-tert-butyl ether	<15.3	ug/kg	81.7	15.3	1	02/21/17 16:12	02/21/17 21:28	1634-04-4	
Methylene Chloride	<151	ug/kg	327	151	1	02/21/17 16:12	02/21/17 21:28	75-09-2	
Naphthalene	<19.8	ug/kg	327	19.8	1	02/21/17 16:12	02/21/17 21:28	91-20-3	
Styrene	<21.3	ug/kg	81.7	21.3	1	02/21/17 16:12	02/21/17 21:28	100-42-5	
Tetrachloroethene	<31.2	ug/kg	81.7	31.2	1	02/21/17 16:12	02/21/17 21:28	127-18-4	
Tetrahydrofuran	<405	ug/kg	3270	405	1	02/21/17 16:12	02/21/17 21:28	109-99-9	
Toluene	<26.0	ug/kg	81.7	26.0	1	02/21/17 16:12	02/21/17 21:28	108-88-3	
Trichloroethene	<23.4	ug/kg	81.7	23.4	1	02/21/17 16:12	02/21/17 21:28	79-01-6	
Trichlorofluoromethane	<82.1	ug/kg	327	82.1	1	02/21/17 16:12	02/21/17 21:28	75-69-4	
Vinyl acetate	<86.5	ug/kg	81.7	86.5	1	02/21/17 16:12	02/21/17 21:28	108-05-4	
Vinyl chloride	<10.5	ug/kg	32.7	10.5	1	02/21/17 16:12	02/21/17 21:28	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-20 **Lab ID: 10379430025** Collected: 02/14/17 09:20 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<30.4	ug/kg	81.7	30.4	1	02/21/17 16:12	02/21/17 21:28	156-59-2	
cis-1,3-Dichloropropene	<37.3	ug/kg	81.7	37.3	1	02/21/17 16:12	02/21/17 21:28	10061-01-5	
m&p-Xylene	<41.0	ug/kg	163	41.0	1	02/21/17 16:12	02/21/17 21:28	179601-23-1	
o-Xylene	<24.4	ug/kg	81.7	24.4	1	02/21/17 16:12	02/21/17 21:28	95-47-6	
trans-1,2-Dichloroethene	<39.4	ug/kg	81.7	39.4	1	02/21/17 16:12	02/21/17 21:28	156-60-5	
trans-1,3-Dichloropropene	<27.8	ug/kg	327	27.8	1	02/21/17 16:12	02/21/17 21:28	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-129		1	02/21/17 16:12	02/21/17 21:28	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1	02/21/17 16:12	02/21/17 21:28	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/21/17 16:12	02/21/17 21:28	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-25 **Lab ID: 10379430026** Collected: 02/14/17 09:25 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	37.2	%	0.10	0.10	1		02/21/17 13:19		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<35.3	ug/kg	84.3	35.3	1	02/21/17 16:12	02/22/17 03:15	71-55-6	
1,1,2,2-Tetrachloroethane	<18.7	ug/kg	84.3	18.7	1	02/21/17 16:12	02/22/17 03:15	79-34-5	
1,1,2-Trichloroethane	<18.2	ug/kg	84.3	18.2	1	02/21/17 16:12	02/22/17 03:15	79-00-5	
1,1,2-Trichlorotrifluoroethane	<60.7	ug/kg	337	60.7	1	02/21/17 16:12	02/22/17 03:15	76-13-1	
1,1-Dichloroethane	<32.7	ug/kg	84.3	32.7	1	02/21/17 16:12	02/22/17 03:15	75-34-3	
1,1-Dichloroethene	<21.4	ug/kg	84.3	21.4	1	02/21/17 16:12	02/22/17 03:15	75-35-4	
1,2,4-Trichlorobenzene	<26.0	ug/kg	84.3	26.0	1	02/21/17 16:12	02/22/17 03:15	120-82-1	
1,2,4-Trimethylbenzene	<18.6	ug/kg	84.3	18.6	1	02/21/17 16:12	02/22/17 03:15	95-63-6	
1,2-Dibromoethane (EDB)	<31.7	ug/kg	84.3	31.7	1	02/21/17 16:12	02/22/17 03:15	106-93-4	
1,2-Dichlorobenzene	<16.3	ug/kg	84.3	16.3	1	02/21/17 16:12	02/22/17 03:15	95-50-1	
1,2-Dichloroethane	<26.7	ug/kg	84.3	26.7	1	02/21/17 16:12	02/22/17 03:15	107-06-2	
1,3,5-Trimethylbenzene	<19.4	ug/kg	84.3	19.4	1	02/21/17 16:12	02/22/17 03:15	108-67-8	
1,3-Dichlorobenzene	<24.8	ug/kg	84.3	24.8	1	02/21/17 16:12	02/22/17 03:15	541-73-1	
1,4-Dichlorobenzene	<24.5	ug/kg	84.3	24.5	1	02/21/17 16:12	02/22/17 03:15	106-46-7	
2-Butanone (MEK)	<111	ug/kg	422	111	1	02/21/17 16:12	02/22/17 03:15	78-93-3	
2-Hexanone	<99.4	ug/kg	422	99.4	1	02/21/17 16:12	02/22/17 03:15	591-78-6	
4-Methyl-2-pentanone (MIBK)	<55.8	ug/kg	422	55.8	1	02/21/17 16:12	02/22/17 03:15	108-10-1	
Acetone	<553	ug/kg	1690	553	1	02/21/17 16:12	02/22/17 03:15	67-64-1	
Benzene	<7.3	ug/kg	33.7	7.3	1	02/21/17 16:12	02/22/17 03:15	71-43-2	
Bromodichloromethane	<23.6	ug/kg	84.3	23.6	1	02/21/17 16:12	02/22/17 03:15	75-27-4	
Bromoform	<72.7	ug/kg	337	72.7	1	02/21/17 16:12	02/22/17 03:15	75-25-2	
Bromomethane	<85.5	ug/kg	843	85.5	1	02/21/17 16:12	02/22/17 03:15	74-83-9	
Carbon tetrachloride	<26.5	ug/kg	84.3	26.5	1	02/21/17 16:12	02/22/17 03:15	56-23-5	
Chlorobenzene	<14.7	ug/kg	84.3	14.7	1	02/21/17 16:12	02/22/17 03:15	108-90-7	
Chloroethane	<133	ug/kg	843	133	1	02/21/17 16:12	02/22/17 03:15	75-00-3	
Chloroform	<41.0	ug/kg	84.3	41.0	1	02/21/17 16:12	02/22/17 03:15	67-66-3	
Chloromethane	<40.8	ug/kg	337	40.8	1	02/21/17 16:12	02/22/17 03:15	74-87-3	
Dibromochloromethane	<72.4	ug/kg	337	72.4	1	02/21/17 16:12	02/22/17 03:15	124-48-1	
Dichlorodifluoromethane	<25.8	ug/kg	337	25.8	1	02/21/17 16:12	02/22/17 03:15	75-71-8	
Ethylbenzene	<26.8	ug/kg	84.3	26.8	1	02/21/17 16:12	02/22/17 03:15	100-41-4	
Hexachloro-1,3-butadiene	<79.3	ug/kg	422	79.3	1	02/21/17 16:12	02/22/17 03:15	87-68-3	
Methyl-tert-butyl ether	<15.8	ug/kg	84.3	15.8	1	02/21/17 16:12	02/22/17 03:15	1634-04-4	
Methylene Chloride	<156	ug/kg	337	156	1	02/21/17 16:12	02/22/17 03:15	75-09-2	
Naphthalene	<20.4	ug/kg	337	20.4	1	02/21/17 16:12	02/22/17 03:15	91-20-3	
Styrene	<21.9	ug/kg	84.3	21.9	1	02/21/17 16:12	02/22/17 03:15	100-42-5	
Tetrachloroethene	<32.2	ug/kg	84.3	32.2	1	02/21/17 16:12	02/22/17 03:15	127-18-4	
Tetrahydrofuran	<418	ug/kg	3370	418	1	02/21/17 16:12	02/22/17 03:15	109-99-9	
Toluene	<26.8	ug/kg	84.3	26.8	1	02/21/17 16:12	02/22/17 03:15	108-88-3	
Trichloroethene	<24.1	ug/kg	84.3	24.1	1	02/21/17 16:12	02/22/17 03:15	79-01-6	
Trichlorofluoromethane	<84.7	ug/kg	337	84.7	1	02/21/17 16:12	02/22/17 03:15	75-69-4	
Vinyl acetate	<89.2	ug/kg	843	89.2	1	02/21/17 16:12	02/22/17 03:15	108-05-4	
Vinyl chloride	<10.8	ug/kg	33.7	10.8	1	02/21/17 16:12	02/22/17 03:15	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

Sample: SB41-SS-25 **Lab ID: 10379430026** Collected: 02/14/17 09:25 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<31.4	ug/kg	84.3	31.4	1	02/21/17 16:12	02/22/17 03:15	156-59-2	
cis-1,3-Dichloropropene	<38.5	ug/kg	84.3	38.5	1	02/21/17 16:12	02/22/17 03:15	10061-01-5	
m&p-Xylene	<42.3	ug/kg	169	42.3	1	02/21/17 16:12	02/22/17 03:15	179601-23-1	
o-Xylene	<25.1	ug/kg	84.3	25.1	1	02/21/17 16:12	02/22/17 03:15	95-47-6	
trans-1,2-Dichloroethene	<40.7	ug/kg	84.3	40.7	1	02/21/17 16:12	02/22/17 03:15	156-60-5	
trans-1,3-Dichloropropene	<28.7	ug/kg	337	28.7	1	02/21/17 16:12	02/22/17 03:15	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-129		1	02/21/17 16:12	02/22/17 03:15	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1	02/21/17 16:12	02/22/17 03:15	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1	02/21/17 16:12	02/22/17 03:15	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-30 **Lab ID: 10379430027** Collected: 02/14/17 09:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.0	%	0.10	0.10	1		02/21/17 13:19		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<29.8	ug/kg	71.3	29.8	1	02/21/17 16:12	02/21/17 23:55	71-55-6	
1,1,2,2-Tetrachloroethane	<15.8	ug/kg	71.3	15.8	1	02/21/17 16:12	02/21/17 23:55	79-34-5	
1,1,2-Trichloroethane	<15.4	ug/kg	71.3	15.4	1	02/21/17 16:12	02/21/17 23:55	79-00-5	
1,1,2-Trichlorotrifluoroethane	<51.3	ug/kg	285	51.3	1	02/21/17 16:12	02/21/17 23:55	76-13-1	
1,1-Dichloroethane	<27.7	ug/kg	71.3	27.7	1	02/21/17 16:12	02/21/17 23:55	75-34-3	
1,1-Dichloroethene	<18.1	ug/kg	71.3	18.1	1	02/21/17 16:12	02/21/17 23:55	75-35-4	
1,2,4-Trichlorobenzene	<22.0	ug/kg	71.3	22.0	1	02/21/17 16:12	02/21/17 23:55	120-82-1	
1,2,4-Trimethylbenzene	<15.7	ug/kg	71.3	15.7	1	02/21/17 16:12	02/21/17 23:55	95-63-6	
1,2-Dibromoethane (EDB)	<26.8	ug/kg	71.3	26.8	1	02/21/17 16:12	02/21/17 23:55	106-93-4	
1,2-Dichlorobenzene	<13.8	ug/kg	71.3	13.8	1	02/21/17 16:12	02/21/17 23:55	95-50-1	
1,2-Dichloroethane	<22.5	ug/kg	71.3	22.5	1	02/21/17 16:12	02/21/17 23:55	107-06-2	
1,3,5-Trimethylbenzene	<16.4	ug/kg	71.3	16.4	1	02/21/17 16:12	02/21/17 23:55	108-67-8	
1,3-Dichlorobenzene	<21.0	ug/kg	71.3	21.0	1	02/21/17 16:12	02/21/17 23:55	541-73-1	
1,4-Dichlorobenzene	<20.7	ug/kg	71.3	20.7	1	02/21/17 16:12	02/21/17 23:55	106-46-7	
2-Butanone (MEK)	<94.1	ug/kg	356	94.1	1	02/21/17 16:12	02/21/17 23:55	78-93-3	
2-Hexanone	<84.0	ug/kg	356	84.0	1	02/21/17 16:12	02/21/17 23:55	591-78-6	
4-Methyl-2-pentanone (MIBK)	<47.2	ug/kg	356	47.2	1	02/21/17 16:12	02/21/17 23:55	108-10-1	
Acetone	<468	ug/kg	1430	468	1	02/21/17 16:12	02/21/17 23:55	67-64-1	
Benzene	<6.2	ug/kg	28.5	6.2	1	02/21/17 16:12	02/21/17 23:55	71-43-2	
Bromodichloromethane	<20.0	ug/kg	71.3	20.0	1	02/21/17 16:12	02/21/17 23:55	75-27-4	
Bromoform	<61.4	ug/kg	285	61.4	1	02/21/17 16:12	02/21/17 23:55	75-25-2	
Bromomethane	<72.3	ug/kg	713	72.3	1	02/21/17 16:12	02/21/17 23:55	74-83-9	
Carbon tetrachloride	<22.4	ug/kg	71.3	22.4	1	02/21/17 16:12	02/21/17 23:55	56-23-5	
Chlorobenzene	<12.4	ug/kg	71.3	12.4	1	02/21/17 16:12	02/21/17 23:55	108-90-7	
Chloroethane	<113	ug/kg	713	113	1	02/21/17 16:12	02/21/17 23:55	75-00-3	
Chloroform	<34.6	ug/kg	71.3	34.6	1	02/21/17 16:12	02/21/17 23:55	67-66-3	
Chloromethane	<34.5	ug/kg	285	34.5	1	02/21/17 16:12	02/21/17 23:55	74-87-3	
Dibromochloromethane	<61.2	ug/kg	285	61.2	1	02/21/17 16:12	02/21/17 23:55	124-48-1	
Dichlorodifluoromethane	<21.8	ug/kg	285	21.8	1	02/21/17 16:12	02/21/17 23:55	75-71-8	
Ethylbenzene	<22.7	ug/kg	71.3	22.7	1	02/21/17 16:12	02/21/17 23:55	100-41-4	
Hexachloro-1,3-butadiene	<67.0	ug/kg	356	67.0	1	02/21/17 16:12	02/21/17 23:55	87-68-3	
Methyl-tert-butyl ether	<13.3	ug/kg	71.3	13.3	1	02/21/17 16:12	02/21/17 23:55	1634-04-4	
Methylene Chloride	<132	ug/kg	285	132	1	02/21/17 16:12	02/21/17 23:55	75-09-2	
Naphthalene	<17.3	ug/kg	285	17.3	1	02/21/17 16:12	02/21/17 23:55	91-20-3	
Styrene	<18.5	ug/kg	71.3	18.5	1	02/21/17 16:12	02/21/17 23:55	100-42-5	
Tetrachloroethene	<27.2	ug/kg	71.3	27.2	1	02/21/17 16:12	02/21/17 23:55	127-18-4	
Tetrahydrofuran	<354	ug/kg	2850	354	1	02/21/17 16:12	02/21/17 23:55	109-99-9	
Toluene	<22.7	ug/kg	71.3	22.7	1	02/21/17 16:12	02/21/17 23:55	108-88-3	
Trichloroethene	<20.4	ug/kg	71.3	20.4	1	02/21/17 16:12	02/21/17 23:55	79-01-6	
Trichlorofluoromethane	<71.6	ug/kg	285	71.6	1	02/21/17 16:12	02/21/17 23:55	75-69-4	
Vinyl acetate	<75.4	ug/kg	713	75.4	1	02/21/17 16:12	02/21/17 23:55	108-05-4	
Vinyl chloride	<9.2	ug/kg	28.5	9.2	1	02/21/17 16:12	02/21/17 23:55	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-30 **Lab ID: 10379430027** Collected: 02/14/17 09:40 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<26.5	ug/kg	71.3	26.5	1	02/21/17 16:12	02/21/17 23:55	156-59-2	
cis-1,3-Dichloropropene	<32.5	ug/kg	71.3	32.5	1	02/21/17 16:12	02/21/17 23:55	10061-01-5	
m&p-Xylene	<35.8	ug/kg	143	35.8	1	02/21/17 16:12	02/21/17 23:55	179601-23-1	
o-Xylene	<21.2	ug/kg	71.3	21.2	1	02/21/17 16:12	02/21/17 23:55	95-47-6	
trans-1,2-Dichloroethene	<34.4	ug/kg	71.3	34.4	1	02/21/17 16:12	02/21/17 23:55	156-60-5	
trans-1,3-Dichloropropene	<24.2	ug/kg	285	24.2	1	02/21/17 16:12	02/21/17 23:55	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/21/17 23:55	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/21/17 16:12	02/21/17 23:55	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1	02/21/17 16:12	02/21/17 23:55	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: **SB41-SS-35** Lab ID: **10379430028** Collected: 02/14/17 09:50 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	32.9	%	0.10	0.10	1		02/21/17 13:20		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<31.3	ug/kg	74.8	31.3	1	02/21/17 16:12	02/22/17 03:33	71-55-6	
1,1,2,2-Tetrachloroethane	<16.6	ug/kg	74.8	16.6	1	02/21/17 16:12	02/22/17 03:33	79-34-5	
1,1,2-Trichloroethane	<16.2	ug/kg	74.8	16.2	1	02/21/17 16:12	02/22/17 03:33	79-00-5	
1,1,2-Trichlorotrifluoroethane	<53.9	ug/kg	299	53.9	1	02/21/17 16:12	02/22/17 03:33	76-13-1	
1,1-Dichloroethane	<29.0	ug/kg	74.8	29.0	1	02/21/17 16:12	02/22/17 03:33	75-34-3	
1,1-Dichloroethene	<19.0	ug/kg	74.8	19.0	1	02/21/17 16:12	02/22/17 03:33	75-35-4	
1,2,4-Trichlorobenzene	<23.0	ug/kg	74.8	23.0	1	02/21/17 16:12	02/22/17 03:33	120-82-1	
1,2,4-Trimethylbenzene	<16.5	ug/kg	74.8	16.5	1	02/21/17 16:12	02/22/17 03:33	95-63-6	
1,2-Dibromoethane (EDB)	<28.1	ug/kg	74.8	28.1	1	02/21/17 16:12	02/22/17 03:33	106-93-4	
1,2-Dichlorobenzene	<14.5	ug/kg	74.8	14.5	1	02/21/17 16:12	02/22/17 03:33	95-50-1	
1,2-Dichloroethane	<23.6	ug/kg	74.8	23.6	1	02/21/17 16:12	02/22/17 03:33	107-06-2	
1,3,5-Trimethylbenzene	<17.2	ug/kg	74.8	17.2	1	02/21/17 16:12	02/22/17 03:33	108-67-8	
1,3-Dichlorobenzene	<22.0	ug/kg	74.8	22.0	1	02/21/17 16:12	02/22/17 03:33	541-73-1	
1,4-Dichlorobenzene	<21.7	ug/kg	74.8	21.7	1	02/21/17 16:12	02/22/17 03:33	106-46-7	
2-Butanone (MEK)	<98.8	ug/kg	374	98.8	1	02/21/17 16:12	02/22/17 03:33	78-93-3	
2-Hexanone	<88.1	ug/kg	374	88.1	1	02/21/17 16:12	02/22/17 03:33	591-78-6	
4-Methyl-2-pentanone (MIBK)	<49.5	ug/kg	374	49.5	1	02/21/17 16:12	02/22/17 03:33	108-10-1	
Acetone	<491	ug/kg	1500	491	1	02/21/17 16:12	02/22/17 03:33	67-64-1	
Benzene	<6.5	ug/kg	29.9	6.5	1	02/21/17 16:12	02/22/17 03:33	71-43-2	
Bromodichloromethane	<20.9	ug/kg	74.8	20.9	1	02/21/17 16:12	02/22/17 03:33	75-27-4	
Bromoform	<64.5	ug/kg	299	64.5	1	02/21/17 16:12	02/22/17 03:33	75-25-2	
Bromomethane	<75.9	ug/kg	748	75.9	1	02/21/17 16:12	02/22/17 03:33	74-83-9	
Carbon tetrachloride	<23.5	ug/kg	74.8	23.5	1	02/21/17 16:12	02/22/17 03:33	56-23-5	
Chlorobenzene	<13.0	ug/kg	74.8	13.0	1	02/21/17 16:12	02/22/17 03:33	108-90-7	
Chloroethane	<118	ug/kg	748	118	1	02/21/17 16:12	02/22/17 03:33	75-00-3	
Chloroform	<36.4	ug/kg	74.8	36.4	1	02/21/17 16:12	02/22/17 03:33	67-66-3	
Chloromethane	<36.2	ug/kg	299	36.2	1	02/21/17 16:12	02/22/17 03:33	74-87-3	
Dibromochloromethane	<64.2	ug/kg	299	64.2	1	02/21/17 16:12	02/22/17 03:33	124-48-1	
Dichlorodifluoromethane	<22.9	ug/kg	299	22.9	1	02/21/17 16:12	02/22/17 03:33	75-71-8	
Ethylbenzene	<23.8	ug/kg	74.8	23.8	1	02/21/17 16:12	02/22/17 03:33	100-41-4	
Hexachloro-1,3-butadiene	<70.3	ug/kg	374	70.3	1	02/21/17 16:12	02/22/17 03:33	87-68-3	
Methyl-tert-butyl ether	<14.0	ug/kg	74.8	14.0	1	02/21/17 16:12	02/22/17 03:33	1634-04-4	
Methylene Chloride	<139	ug/kg	299	139	1	02/21/17 16:12	02/22/17 03:33	75-09-2	
Naphthalene	<18.1	ug/kg	299	18.1	1	02/21/17 16:12	02/22/17 03:33	91-20-3	
Styrene	<19.5	ug/kg	74.8	19.5	1	02/21/17 16:12	02/22/17 03:33	100-42-5	
Tetrachloroethene	<28.6	ug/kg	74.8	28.6	1	02/21/17 16:12	02/22/17 03:33	127-18-4	
Tetrahydrofuran	<371	ug/kg	2990	371	1	02/21/17 16:12	02/22/17 03:33	109-99-9	
Toluene	<23.8	ug/kg	74.8	23.8	1	02/21/17 16:12	02/22/17 03:33	108-88-3	
Trichloroethene	<21.4	ug/kg	74.8	21.4	1	02/21/17 16:12	02/22/17 03:33	79-01-6	
Trichlorofluoromethane	<75.1	ug/kg	299	75.1	1	02/21/17 16:12	02/22/17 03:33	75-69-4	
Vinyl acetate	<79.2	ug/kg	748	79.2	1	02/21/17 16:12	02/22/17 03:33	108-05-4	
Vinyl chloride	<9.6	ug/kg	29.9	9.6	1	02/21/17 16:12	02/22/17 03:33	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-35 **Lab ID: 10379430028** Collected: 02/14/17 09:50 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<27.8	ug/kg	74.8	27.8	1	02/21/17 16:12	02/22/17 03:33	156-59-2	
cis-1,3-Dichloropropene	<34.1	ug/kg	74.8	34.1	1	02/21/17 16:12	02/22/17 03:33	10061-01-5	
m&p-Xylene	<37.6	ug/kg	150	37.6	1	02/21/17 16:12	02/22/17 03:33	179601-23-1	
o-Xylene	<22.3	ug/kg	74.8	22.3	1	02/21/17 16:12	02/22/17 03:33	95-47-6	
trans-1,2-Dichloroethene	<36.1	ug/kg	74.8	36.1	1	02/21/17 16:12	02/22/17 03:33	156-60-5	
trans-1,3-Dichloropropene	<25.4	ug/kg	299	25.4	1	02/21/17 16:12	02/22/17 03:33	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-129		1	02/21/17 16:12	02/22/17 03:33	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 03:33	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 03:33	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-40 **Lab ID: 10379430029** Collected: 02/14/17 10:55 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	9.8	%	0.10	0.10	1		02/21/17 13:20		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<21.6	ug/kg	51.7	21.6	1	02/21/17 16:12	02/22/17 03:51	71-55-6	
1,1,2,2-Tetrachloroethane	<11.5	ug/kg	51.7	11.5	1	02/21/17 16:12	02/22/17 03:51	79-34-5	
1,1,2-Trichloroethane	<11.2	ug/kg	51.7	11.2	1	02/21/17 16:12	02/22/17 03:51	79-00-5	
1,1,2-Trichlorotrifluoroethane	<37.2	ug/kg	207	37.2	1	02/21/17 16:12	02/22/17 03:51	76-13-1	
1,1-Dichloroethane	<20.1	ug/kg	51.7	20.1	1	02/21/17 16:12	02/22/17 03:51	75-34-3	
1,1-Dichloroethene	<13.1	ug/kg	51.7	13.1	1	02/21/17 16:12	02/22/17 03:51	75-35-4	
1,2,4-Trichlorobenzene	<15.9	ug/kg	51.7	15.9	1	02/21/17 16:12	02/22/17 03:51	120-82-1	
1,2,4-Trimethylbenzene	<11.4	ug/kg	51.7	11.4	1	02/21/17 16:12	02/22/17 03:51	95-63-6	
1,2-Dibromoethane (EDB)	<19.5	ug/kg	51.7	19.5	1	02/21/17 16:12	02/22/17 03:51	106-93-4	
1,2-Dichlorobenzene	<10	ug/kg	51.7	10	1	02/21/17 16:12	02/22/17 03:51	95-50-1	
1,2-Dichloroethane	<16.3	ug/kg	51.7	16.3	1	02/21/17 16:12	02/22/17 03:51	107-06-2	
1,3,5-Trimethylbenzene	<11.9	ug/kg	51.7	11.9	1	02/21/17 16:12	02/22/17 03:51	108-67-8	
1,3-Dichlorobenzene	<15.2	ug/kg	51.7	15.2	1	02/21/17 16:12	02/22/17 03:51	541-73-1	
1,4-Dichlorobenzene	<15.0	ug/kg	51.7	15.0	1	02/21/17 16:12	02/22/17 03:51	106-46-7	
2-Butanone (MEK)	<68.3	ug/kg	259	68.3	1	02/21/17 16:12	02/22/17 03:51	78-93-3	
2-Hexanone	<60.9	ug/kg	259	60.9	1	02/21/17 16:12	02/22/17 03:51	591-78-6	
4-Methyl-2-pentanone (MIBK)	<34.2	ug/kg	259	34.2	1	02/21/17 16:12	02/22/17 03:51	108-10-1	
Acetone	<339	ug/kg	1030	339	1	02/21/17 16:12	02/22/17 03:51	67-64-1	
Benzene	<4.5	ug/kg	20.7	4.5	1	02/21/17 16:12	02/22/17 03:51	71-43-2	
Bromodichloromethane	<14.5	ug/kg	51.7	14.5	1	02/21/17 16:12	02/22/17 03:51	75-27-4	
Bromoform	<44.6	ug/kg	207	44.6	1	02/21/17 16:12	02/22/17 03:51	75-25-2	
Bromomethane	<52.5	ug/kg	517	52.5	1	02/21/17 16:12	02/22/17 03:51	74-83-9	
Carbon tetrachloride	<16.2	ug/kg	51.7	16.2	1	02/21/17 16:12	02/22/17 03:51	56-23-5	
Chlorobenzene	<9.0	ug/kg	51.7	9.0	1	02/21/17 16:12	02/22/17 03:51	108-90-7	
Chloroethane	<81.7	ug/kg	517	81.7	1	02/21/17 16:12	02/22/17 03:51	75-00-3	
Chloroform	<25.1	ug/kg	51.7	25.1	1	02/21/17 16:12	02/22/17 03:51	67-66-3	
Chloromethane	<25.0	ug/kg	207	25.0	1	02/21/17 16:12	02/22/17 03:51	74-87-3	
Dibromochloromethane	<44.4	ug/kg	207	44.4	1	02/21/17 16:12	02/22/17 03:51	124-48-1	
Dichlorodifluoromethane	<15.8	ug/kg	207	15.8	1	02/21/17 16:12	02/22/17 03:51	75-71-8	
Ethylbenzene	<16.5	ug/kg	51.7	16.5	1	02/21/17 16:12	02/22/17 03:51	100-41-4	
Hexachloro-1,3-butadiene	<48.6	ug/kg	259	48.6	1	02/21/17 16:12	02/22/17 03:51	87-68-3	
Methyl-tert-butyl ether	<9.7	ug/kg	51.7	9.7	1	02/21/17 16:12	02/22/17 03:51	1634-04-4	
Methylene Chloride	<95.8	ug/kg	207	95.8	1	02/21/17 16:12	02/22/17 03:51	75-09-2	
Naphthalene	<12.5	ug/kg	207	12.5	1	02/21/17 16:12	02/22/17 03:51	91-20-3	
Styrene	<13.5	ug/kg	51.7	13.5	1	02/21/17 16:12	02/22/17 03:51	100-42-5	
Tetrachloroethene	<19.8	ug/kg	51.7	19.8	1	02/21/17 16:12	02/22/17 03:51	127-18-4	
Tetrahydrofuran	<257	ug/kg	2070	257	1	02/21/17 16:12	02/22/17 03:51	109-99-9	
Toluene	<16.5	ug/kg	51.7	16.5	1	02/21/17 16:12	02/22/17 03:51	108-88-3	
Trichloroethene	<14.8	ug/kg	51.7	14.8	1	02/21/17 16:12	02/22/17 03:51	79-01-6	
Trichlorofluoromethane	<51.9	ug/kg	207	51.9	1	02/21/17 16:12	02/22/17 03:51	75-69-4	
Vinyl acetate	<54.7	ug/kg	517	54.7	1	02/21/17 16:12	02/22/17 03:51	108-05-4	
Vinyl chloride	<6.6	ug/kg	20.7	6.6	1	02/21/17 16:12	02/22/17 03:51	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-40 **Lab ID: 10379430029** Collected: 02/14/17 10:55 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<19.2	ug/kg	51.7	19.2	1	02/21/17 16:12	02/22/17 03:51	156-59-2	
cis-1,3-Dichloropropene	<23.6	ug/kg	51.7	23.6	1	02/21/17 16:12	02/22/17 03:51	10061-01-5	
m&p-Xylene	<26.0	ug/kg	103	26.0	1	02/21/17 16:12	02/22/17 03:51	179601-23-1	
o-Xylene	<15.4	ug/kg	51.7	15.4	1	02/21/17 16:12	02/22/17 03:51	95-47-6	
trans-1,2-Dichloroethene	<24.9	ug/kg	51.7	24.9	1	02/21/17 16:12	02/22/17 03:51	156-60-5	
trans-1,3-Dichloropropene	<17.6	ug/kg	207	17.6	1	02/21/17 16:12	02/22/17 03:51	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-129		1	02/21/17 16:12	02/22/17 03:51	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 03:51	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1	02/21/17 16:12	02/22/17 03:51	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-45 **Lab ID: 10379430030** Collected: 02/14/17 11:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	12.2	%	0.10	0.10	1		02/21/17 14:08		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<23.0	ug/kg	55.1	23.0	1	02/21/17 16:12	02/22/17 04:09	71-55-6	
1,1,2,2-Tetrachloroethane	<12.2	ug/kg	55.1	12.2	1	02/21/17 16:12	02/22/17 04:09	79-34-5	
1,1,2-Trichloroethane	<11.9	ug/kg	55.1	11.9	1	02/21/17 16:12	02/22/17 04:09	79-00-5	
1,1,2-Trichlorotrifluoroethane	<39.6	ug/kg	220	39.6	1	02/21/17 16:12	02/22/17 04:09	76-13-1	
1,1-Dichloroethane	<21.4	ug/kg	55.1	21.4	1	02/21/17 16:12	02/22/17 04:09	75-34-3	
1,1-Dichloroethene	<14.0	ug/kg	55.1	14.0	1	02/21/17 16:12	02/22/17 04:09	75-35-4	
1,2,4-Trichlorobenzene	<17.0	ug/kg	55.1	17.0	1	02/21/17 16:12	02/22/17 04:09	120-82-1	
1,2,4-Trimethylbenzene	<12.1	ug/kg	55.1	12.1	1	02/21/17 16:12	02/22/17 04:09	95-63-6	
1,2-Dibromoethane (EDB)	<20.7	ug/kg	55.1	20.7	1	02/21/17 16:12	02/22/17 04:09	106-93-4	
1,2-Dichlorobenzene	<10.6	ug/kg	55.1	10.6	1	02/21/17 16:12	02/22/17 04:09	95-50-1	
1,2-Dichloroethane	<17.4	ug/kg	55.1	17.4	1	02/21/17 16:12	02/22/17 04:09	107-06-2	
1,3,5-Trimethylbenzene	<12.7	ug/kg	55.1	12.7	1	02/21/17 16:12	02/22/17 04:09	108-67-8	
1,3-Dichlorobenzene	<16.2	ug/kg	55.1	16.2	1	02/21/17 16:12	02/22/17 04:09	541-73-1	
1,4-Dichlorobenzene	<16.0	ug/kg	55.1	16.0	1	02/21/17 16:12	02/22/17 04:09	106-46-7	
2-Butanone (MEK)	<72.7	ug/kg	275	72.7	1	02/21/17 16:12	02/22/17 04:09	78-93-3	
2-Hexanone	<64.9	ug/kg	275	64.9	1	02/21/17 16:12	02/22/17 04:09	591-78-6	
4-Methyl-2-pentanone (MIBK)	<36.4	ug/kg	275	36.4	1	02/21/17 16:12	02/22/17 04:09	108-10-1	
Acetone	<361	ug/kg	1100	361	1	02/21/17 16:12	02/22/17 04:09	67-64-1	
Benzene	<4.8	ug/kg	22.0	4.8	1	02/21/17 16:12	02/22/17 04:09	71-43-2	
Bromodichloromethane	<15.4	ug/kg	55.1	15.4	1	02/21/17 16:12	02/22/17 04:09	75-27-4	
Bromoform	<47.5	ug/kg	220	47.5	1	02/21/17 16:12	02/22/17 04:09	75-25-2	
Bromomethane	<55.8	ug/kg	551	55.8	1	02/21/17 16:12	02/22/17 04:09	74-83-9	
Carbon tetrachloride	<17.3	ug/kg	55.1	17.3	1	02/21/17 16:12	02/22/17 04:09	56-23-5	
Chlorobenzene	<9.6	ug/kg	55.1	9.6	1	02/21/17 16:12	02/22/17 04:09	108-90-7	
Chloroethane	<87.0	ug/kg	551	87.0	1	02/21/17 16:12	02/22/17 04:09	75-00-3	
Chloroform	<26.8	ug/kg	55.1	26.8	1	02/21/17 16:12	02/22/17 04:09	67-66-3	
Chloromethane	<26.6	ug/kg	220	26.6	1	02/21/17 16:12	02/22/17 04:09	74-87-3	
Dibromochloromethane	<47.2	ug/kg	220	47.2	1	02/21/17 16:12	02/22/17 04:09	124-48-1	
Dichlorodifluoromethane	<16.8	ug/kg	220	16.8	1	02/21/17 16:12	02/22/17 04:09	75-71-8	
Ethylbenzene	<17.5	ug/kg	55.1	17.5	1	02/21/17 16:12	02/22/17 04:09	100-41-4	
Hexachloro-1,3-butadiene	<51.8	ug/kg	275	51.8	1	02/21/17 16:12	02/22/17 04:09	87-68-3	
Methyl-tert-butyl ether	<10.3	ug/kg	55.1	10.3	1	02/21/17 16:12	02/22/17 04:09	1634-04-4	
Methylene Chloride	<102	ug/kg	220	102	1	02/21/17 16:12	02/22/17 04:09	75-09-2	
Naphthalene	<13.3	ug/kg	220	13.3	1	02/21/17 16:12	02/22/17 04:09	91-20-3	
Styrene	<14.3	ug/kg	55.1	14.3	1	02/21/17 16:12	02/22/17 04:09	100-42-5	
Tetrachloroethene	<21.0	ug/kg	55.1	21.0	1	02/21/17 16:12	02/22/17 04:09	127-18-4	
Tetrahydrofuran	<273	ug/kg	2200	273	1	02/21/17 16:12	02/22/17 04:09	109-99-9	
Toluene	<17.5	ug/kg	55.1	17.5	1	02/21/17 16:12	02/22/17 04:09	108-88-3	
Trichloroethene	<15.7	ug/kg	55.1	15.7	1	02/21/17 16:12	02/22/17 04:09	79-01-6	
Trichlorofluoromethane	<55.3	ug/kg	220	55.3	1	02/21/17 16:12	02/22/17 04:09	75-69-4	
Vinyl acetate	<58.3	ug/kg	551	58.3	1	02/21/17 16:12	02/22/17 04:09	108-05-4	
Vinyl chloride	<7.1	ug/kg	22.0	7.1	1	02/21/17 16:12	02/22/17 04:09	75-01-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SB41-SS-45 **Lab ID: 10379430030** Collected: 02/14/17 11:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<20.5	ug/kg	55.1	20.5	1	02/21/17 16:12	02/22/17 04:09	156-59-2	
cis-1,3-Dichloropropene	<25.1	ug/kg	55.1	25.1	1	02/21/17 16:12	02/22/17 04:09	10061-01-5	
m&p-Xylene	<27.6	ug/kg	110	27.6	1	02/21/17 16:12	02/22/17 04:09	179601-23-1	
o-Xylene	<16.4	ug/kg	55.1	16.4	1	02/21/17 16:12	02/22/17 04:09	95-47-6	
trans-1,2-Dichloroethene	<26.5	ug/kg	55.1	26.5	1	02/21/17 16:12	02/22/17 04:09	156-60-5	
trans-1,3-Dichloropropene	<18.7	ug/kg	220	18.7	1	02/21/17 16:12	02/22/17 04:09	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-129		1	02/21/17 16:12	02/22/17 04:09	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1	02/21/17 16:12	02/22/17 04:09	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1	02/21/17 16:12	02/22/17 04:09	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SSFD3 **Lab ID: 10379430031** Collected: 02/14/17 08:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight		Analytical Method: ASTM D2974							
Percent Moisture	33.7	%	0.10	0.10	1		02/21/17 14:09		
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
1,1,1-Trichloroethane	<30.1	ug/kg	72.1	30.1	1	02/21/17 16:12	02/21/17 21:10	71-55-6	
1,1,2,2-Tetrachloroethane	<16.0	ug/kg	72.1	16.0	1	02/21/17 16:12	02/21/17 21:10	79-34-5	
1,1,2-Trichloroethane	<15.6	ug/kg	72.1	15.6	1	02/21/17 16:12	02/21/17 21:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<51.9	ug/kg	288	51.9	1	02/21/17 16:12	02/21/17 21:10	76-13-1	
1,1-Dichloroethane	<28.0	ug/kg	72.1	28.0	1	02/21/17 16:12	02/21/17 21:10	75-34-3	
1,1-Dichloroethene	<18.3	ug/kg	72.1	18.3	1	02/21/17 16:12	02/21/17 21:10	75-35-4	
1,2,4-Trichlorobenzene	<22.2	ug/kg	72.1	22.2	1	02/21/17 16:12	02/21/17 21:10	120-82-1	
1,2,4-Trimethylbenzene	<15.9	ug/kg	72.1	15.9	1	02/21/17 16:12	02/21/17 21:10	95-63-6	
1,2-Dibromoethane (EDB)	<27.1	ug/kg	72.1	27.1	1	02/21/17 16:12	02/21/17 21:10	106-93-4	
1,2-Dichlorobenzene	<13.9	ug/kg	72.1	13.9	1	02/21/17 16:12	02/21/17 21:10	95-50-1	
1,2-Dichloroethane	<22.8	ug/kg	72.1	22.8	1	02/21/17 16:12	02/21/17 21:10	107-06-2	
1,3,5-Trimethylbenzene	<16.6	ug/kg	72.1	16.6	1	02/21/17 16:12	02/21/17 21:10	108-67-8	
1,3-Dichlorobenzene	<21.2	ug/kg	72.1	21.2	1	02/21/17 16:12	02/21/17 21:10	541-73-1	
1,4-Dichlorobenzene	<20.9	ug/kg	72.1	20.9	1	02/21/17 16:12	02/21/17 21:10	106-46-7	
2-Butanone (MEK)	<95.2	ug/kg	360	95.2	1	02/21/17 16:12	02/21/17 21:10	78-93-3	
2-Hexanone	<84.9	ug/kg	360	84.9	1	02/21/17 16:12	02/21/17 21:10	591-78-6	
4-Methyl-2-pentanone (MIBK)	<47.7	ug/kg	360	47.7	1	02/21/17 16:12	02/21/17 21:10	108-10-1	
Acetone	<473	ug/kg	1440	473	1	02/21/17 16:12	02/21/17 21:10	67-64-1	
Benzene	<6.2	ug/kg	28.8	6.2	1	02/21/17 16:12	02/21/17 21:10	71-43-2	
Bromodichloromethane	<20.2	ug/kg	72.1	20.2	1	02/21/17 16:12	02/21/17 21:10	75-27-4	
Bromoform	<62.1	ug/kg	288	62.1	1	02/21/17 16:12	02/21/17 21:10	75-25-2	
Bromomethane	<73.1	ug/kg	721	73.1	1	02/21/17 16:12	02/21/17 21:10	74-83-9	
Carbon tetrachloride	<22.6	ug/kg	72.1	22.6	1	02/21/17 16:12	02/21/17 21:10	56-23-5	
Chlorobenzene	<12.5	ug/kg	72.1	12.5	1	02/21/17 16:12	02/21/17 21:10	108-90-7	
Chloroethane	<114	ug/kg	721	114	1	02/21/17 16:12	02/21/17 21:10	75-00-3	
Chloroform	<35.0	ug/kg	72.1	35.0	1	02/21/17 16:12	02/21/17 21:10	67-66-3	
Chloromethane	<34.9	ug/kg	288	34.9	1	02/21/17 16:12	02/21/17 21:10	74-87-3	
Dibromochloromethane	<61.9	ug/kg	288	61.9	1	02/21/17 16:12	02/21/17 21:10	124-48-1	
Dichlorodifluoromethane	<22.1	ug/kg	288	22.1	1	02/21/17 16:12	02/21/17 21:10	75-71-8	
Ethylbenzene	<22.9	ug/kg	72.1	22.9	1	02/21/17 16:12	02/21/17 21:10	100-41-4	
Hexachloro-1,3-butadiene	<67.8	ug/kg	360	67.8	1	02/21/17 16:12	02/21/17 21:10	87-68-3	
Methyl-tert-butyl ether	<13.5	ug/kg	72.1	13.5	1	02/21/17 16:12	02/21/17 21:10	1634-04-4	
Methylene Chloride	<134	ug/kg	288	134	1	02/21/17 16:12	02/21/17 21:10	75-09-2	
Naphthalene	<17.4	ug/kg	288	17.4	1	02/21/17 16:12	02/21/17 21:10	91-20-3	
Styrene	<18.7	ug/kg	72.1	18.7	1	02/21/17 16:12	02/21/17 21:10	100-42-5	
Tetrachloroethene	<27.5	ug/kg	72.1	27.5	1	02/21/17 16:12	02/21/17 21:10	127-18-4	
Tetrahydrofuran	<358	ug/kg	2880	358	1	02/21/17 16:12	02/21/17 21:10	109-99-9	
Toluene	<22.9	ug/kg	72.1	22.9	1	02/21/17 16:12	02/21/17 21:10	108-88-3	
Trichloroethene	<20.6	ug/kg	72.1	20.6	1	02/21/17 16:12	02/21/17 21:10	79-01-6	
Trichlorofluoromethane	<72.4	ug/kg	288	72.4	1	02/21/17 16:12	02/21/17 21:10	75-69-4	
Vinyl acetate	<76.3	ug/kg	721	76.3	1	02/21/17 16:12	02/21/17 21:10	108-05-4	
Vinyl chloride	<9.3	ug/kg	28.8	9.3	1	02/21/17 16:12	02/21/17 21:10	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Sample: SSFD3 **Lab ID: 10379430031** Collected: 02/14/17 08:00 Received: 02/17/17 09:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level		Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B							
cis-1,2-Dichloroethene	<26.8	ug/kg	72.1	26.8	1	02/21/17 16:12	02/21/17 21:10	156-59-2	
cis-1,3-Dichloropropene	<32.9	ug/kg	72.1	32.9	1	02/21/17 16:12	02/21/17 21:10	10061-01-5	
m&p-Xylene	<36.2	ug/kg	144	36.2	1	02/21/17 16:12	02/21/17 21:10	179601-23-1	
o-Xylene	<21.5	ug/kg	72.1	21.5	1	02/21/17 16:12	02/21/17 21:10	95-47-6	
trans-1,2-Dichloroethene	<34.8	ug/kg	72.1	34.8	1	02/21/17 16:12	02/21/17 21:10	156-60-5	
trans-1,3-Dichloropropene	<24.5	ug/kg	288	24.5	1	02/21/17 16:12	02/21/17 21:10	10061-02-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-129		1	02/21/17 16:12	02/21/17 21:10	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1	02/21/17 16:12	02/21/17 21:10	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1	02/21/17 16:12	02/21/17 21:10	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

QC Batch:	460866	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	10379430001, 10379430002, 10379430003, 10379430004, 10379430005, 10379430006, 10379430007, 10379430008, 10379430009, 10379430010, 10379430011, 10379430012		

SAMPLE DUPLICATE: 2520537

Parameter	Units	10379501027 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.1	9.2	10	30	

SAMPLE DUPLICATE: 2520538

Parameter	Units	10379430009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	30.7	26.7	14	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

QC Batch: 460933

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 10379430013, 10379430014, 10379430015, 10379430016, 10379430017, 10379430018, 10379430019,
10379430020, 10379430021, 10379430022, 10379430023, 10379430024, 10379430025, 10379430026,
10379430027, 10379430028, 10379430029

SAMPLE DUPLICATE: 2520914

Parameter	Units	10379608002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.8	8.1	4	30	

SAMPLE DUPLICATE: 2520915

Parameter	Units	10379430027 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	32.0	34.1	6	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

QC Batch: 460947

Analysis Method: ASTM D2974

QC Batch Method: ASTM D2974

Analysis Description: Dry Weight/Percent Moisture

Associated Lab Samples: 10379430030, 10379430031

SAMPLE DUPLICATE: 2521002

Parameter	Units	10379430031 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	33.7	32.8	3	30	

SAMPLE DUPLICATE: 2521003

Parameter	Units	10379480012 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.1	12.0	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

QC Batch: 460762 Analysis Method: EPA 8260B
 QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
 Associated Lab Samples: 10379430002, 10379430003, 10379430004, 10379430005, 10379430006, 10379430007, 10379430008,
 10379430009, 10379430010, 10379430011, 10379430012, 10379430013, 10379430014, 10379430015,
 10379430016

METHOD BLANK: 2520073 Matrix: Solid
 Associated Lab Samples: 10379430002, 10379430003, 10379430004, 10379430005, 10379430006, 10379430007, 10379430008,
 10379430009, 10379430010, 10379430011, 10379430012, 10379430013, 10379430014, 10379430015,
 10379430016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	02/20/17 11:25	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	02/20/17 11:25	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	02/20/17 11:25	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	02/20/17 11:25	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	02/20/17 11:25	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	02/20/17 11:25	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	02/20/17 11:25	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	02/20/17 11:25	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	02/20/17 11:25	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	02/20/17 11:25	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	02/20/17 11:25	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	02/20/17 11:25	
1,3-Dichlorobenzene	ug/kg	<14.7	50.0	14.7	02/20/17 11:25	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	02/20/17 11:25	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	02/20/17 11:25	
2-Hexanone	ug/kg	<58.9	250	58.9	02/20/17 11:25	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	02/20/17 11:25	
Acetone	ug/kg	<328	1000	328	02/20/17 11:25	
Benzene	ug/kg	<4.3	20.0	4.3	02/20/17 11:25	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	02/20/17 11:25	
Bromoform	ug/kg	<43.1	200	43.1	02/20/17 11:25	
Bromomethane	ug/kg	<50.7	500	50.7	02/20/17 11:25	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	02/20/17 11:25	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	02/20/17 11:25	
Chloroethane	ug/kg	<79.0	500	79.0	02/20/17 11:25	
Chloroform	ug/kg	<24.3	50.0	24.3	02/20/17 11:25	
Chloromethane	ug/kg	<24.2	200	24.2	02/20/17 11:25	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	02/20/17 11:25	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	02/20/17 11:25	
Dibromochloromethane	ug/kg	<42.9	200	42.9	02/20/17 11:25	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	02/20/17 11:25	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	02/20/17 11:25	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	02/20/17 11:25	
m&p-Xylene	ug/kg	<25.1	100	25.1	02/20/17 11:25	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	02/20/17 11:25	
Methylene Chloride	ug/kg	<92.6	200	92.6	02/20/17 11:25	
Naphthalene	ug/kg	<12.1	200	12.1	02/20/17 11:25	
o-Xylene	ug/kg	<14.9	50.0	14.9	02/20/17 11:25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

METHOD BLANK: 2520073

Matrix: Solid

Associated Lab Samples: 10379430002, 10379430003, 10379430004, 10379430005, 10379430006, 10379430007, 10379430008, 10379430009, 10379430010, 10379430011, 10379430012, 10379430013, 10379430014, 10379430015, 10379430016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Styrene	ug/kg	<13.0	50.0	13.0	02/20/17 11:25	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	02/20/17 11:25	
Tetrahydrofuran	ug/kg	<248	2000	248	02/20/17 11:25	
Toluene	ug/kg	<15.9	50.0	15.9	02/20/17 11:25	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	02/20/17 11:25	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	02/20/17 11:25	
Trichloroethene	ug/kg	<14.3	50.0	14.3	02/20/17 11:25	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	02/20/17 11:25	
Vinyl acetate	ug/kg	<52.9	500	52.9	02/20/17 11:25	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	02/20/17 11:25	
1,2-Dichloroethane-d4 (S)	%	108	75-129		02/20/17 11:25	
4-Bromofluorobenzene (S)	%	100	75-125		02/20/17 11:25	
Toluene-d8 (S)	%	100	75-125		02/20/17 11:25	

LABORATORY CONTROL SAMPLE: 2520074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	995	99	64-132	
1,1,2,2-Tetrachloroethane	ug/kg	1000	830	83	50-138	
1,1,2-Trichloroethane	ug/kg	1000	854	85	69-126	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	826	83	53-144	
1,1-Dichloroethane	ug/kg	1000	921	92	61-134	
1,1-Dichloroethene	ug/kg	1000	861	86	57-135	
1,2,4-Trichlorobenzene	ug/kg	1000	838	84	38-138	
1,2,4-Trimethylbenzene	ug/kg	1000	832	83	70-127	
1,2-Dibromoethane (EDB)	ug/kg	1000	896	90	69-130	
1,2-Dichlorobenzene	ug/kg	1000	808	81	72-125	
1,2-Dichloroethane	ug/kg	1000	871	87	62-125	
1,3,5-Trimethylbenzene	ug/kg	1000	904	90	71-129	
1,3-Dichlorobenzene	ug/kg	1000	824	82	72-126	
1,4-Dichlorobenzene	ug/kg	1000	809	81	70-126	
2-Butanone (MEK)	ug/kg	5000	4520	90	38-149	
2-Hexanone	ug/kg	5000	4850	97	47-139	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4870	97	52-145	
Acetone	ug/kg	5000	3900	78	65-142	
Benzene	ug/kg	1000	890	89	64-125	
Bromodichloromethane	ug/kg	1000	893	89	67-125	
Bromoform	ug/kg	1000	911	91	56-127	
Bromomethane	ug/kg	1000	919	92	34-137	
Carbon tetrachloride	ug/kg	1000	939	94	58-138	
Chlorobenzene	ug/kg	1000	888	89	72-125	
Chloroethane	ug/kg	1000	897	90	39-148	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

LABORATORY CONTROL SAMPLE: 2520074

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/kg	1000	885	89	67-125	
Chloromethane	ug/kg	1000	830	83	54-125	
cis-1,2-Dichloroethene	ug/kg	1000	934	93	67-125	
cis-1,3-Dichloropropene	ug/kg	1000	881	88	62-127	
Dibromochloromethane	ug/kg	1000	910	91	67-125	
Dichlorodifluoromethane	ug/kg	1000	709	71	34-139	
Ethylbenzene	ug/kg	1000	882	88	70-129	
Hexachloro-1,3-butadiene	ug/kg	1000	805	81	48-126	
m&p-Xylene	ug/kg	2000	1820	91	73-131	
Methyl-tert-butyl ether	ug/kg	1000	900	90	61-125	
Methylene Chloride	ug/kg	1000	805	81	60-126	
Naphthalene	ug/kg	1000	856	86	35-147	
o-Xylene	ug/kg	1000	863	86	74-127	
Styrene	ug/kg	1000	890	89	73-125	
Tetrachloroethene	ug/kg	1000	862	86	66-135	
Tetrahydrofuran	ug/kg	10000	8530	85	66-145	
Toluene	ug/kg	1000	841	84	69-125	
trans-1,2-Dichloroethene	ug/kg	1000	773	77	55-135	
trans-1,3-Dichloropropene	ug/kg	1000	907	91	67-125	
Trichloroethene	ug/kg	1000	883	88	62-141	
Trichlorofluoromethane	ug/kg	1000	912	91	38-150	
Vinyl acetate	ug/kg	1000	864	86	52-125	
Vinyl chloride	ug/kg	1000	829	83	57-131	
1,2-Dichloroethane-d4 (S)	%			104	75-129	
4-Bromofluorobenzene (S)	%			99	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2520075 2520076

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10379430009	Spike Conc.	MSD Spike Conc.	MSD Result								
1,1,1-Trichloroethane	ug/kg	<30.6	1420	1490	1220	1680	86	113	51-137	31	30	R1	
1,1,2,2-Tetrachloroethane	ug/kg	<16.3	1420	1490	1050	1420	74	96	40-149	30	30		
1,1,2-Trichloroethane	ug/kg	<15.8	1420	1490	1070	1410	75	96	54-144	28	30		
1,1,2-Trichlorotrifluoroethane	ug/kg	<52.8	1420	1490	858	1120	60	75	41-150	26	30		
1,1-Dichloroethane	ug/kg	<28.4	1420	1490	1130	1500	79	102	53-131	29	30		
1,1-Dichloroethene	ug/kg	<18.6	1420	1490	956	1250	67	85	41-133	27	30		
1,2,4-Trichlorobenzene	ug/kg	<22.6	1420	1490	1090	1440	77	97	52-142	27	30		
1,2,4-Trimethylbenzene	ug/kg	<16.1	1420	1490	1070	1430	75	97	56-142	29	30		
1,2-Dibromoethane (EDB)	ug/kg	<27.6	1420	1490	1100	1460	78	98	57-136	28	30		
1,2-Dichlorobenzene	ug/kg	<14.2	1420	1490	1050	1420	74	96	59-136	30	30		
1,2-Dichloroethane	ug/kg	<23.2	1420	1490	1050	1450	74	98	52-133	32	30	R1	
1,3,5-Trimethylbenzene	ug/kg	<16.9	1420	1490	1150	1540	81	104	54-143	29	30		
1,3-Dichlorobenzene	ug/kg	<21.5	1420	1490	1070	1420	75	96	60-137	28	30		
1,4-Dichlorobenzene	ug/kg	<21.3	1420	1490	1040	1410	73	95	51-132	30	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

Parameter	Units	2520075		2520076		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10379430009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
2-Butanone (MEK)	ug/kg	<96.7	7100	7410	5200	7430	73	100	46-125	35	30	R1	
2-Hexanone	ug/kg	<86.3	7100	7410	5930	8190	84	111	52-128	32	30	R1	
4-Methyl-2-pentanone (MIBK)	ug/kg	<48.5	7100	7410	5920	8220	83	111	47-146	33	30	R1	
Acetone	ug/kg	<481	7100	7410	4480	6120	63	83	45-148	31	30	R1	
Benzene	ug/kg	<6.3	1420	1490	1090	1480	77	100	41-134	31	30	R1	
Bromodichloromethane	ug/kg	<20.5	1420	1490	1080	1490	76	101	55-136	32	30	R1	
Bromoform	ug/kg	<63.2	1420	1490	1100	1490	78	101	51-139	30	30		
Bromomethane	ug/kg	<74.3	1420	1490	1190	1260	84	85	35-148	6	30		
Carbon tetrachloride	ug/kg	<23.0	1420	1490	1130	1550	80	104	50-140	31	30	R1	
Chlorobenzene	ug/kg	<12.8	1420	1490	1110	1460	78	99	59-133	28	30		
Chloroethane	ug/kg	<116	1420	1490	1210	1220	85	82	30-150	1	30		
Chloroform	ug/kg	<35.6	1420	1490	1070	1460	75	99	58-128	31	30	R1	
Chloromethane	ug/kg	<35.5	1420	1490	990	972	70	66	38-125	2	30		
cis-1,2-Dichloroethene	ug/kg	<27.3	1420	1490	1120	1520	79	102	59-125	30	30		
cis-1,3-Dichloropropene	ug/kg	<33.4	1420	1490	1080	1470	76	99	57-133	31	30	R1	
Dibromochloromethane	ug/kg	<62.9	1420	1490	1160	1520	82	103	54-141	27	30		
Dichlorodifluoromethane	ug/kg	<22.4	1420	1490	531	515	37	35	30-125	3	30		
Ethylbenzene	ug/kg	<23.3	1420	1490	1110	1460	78	99	56-141	28	30		
Hexachloro-1,3-butadiene	ug/kg	<68.9	1420	1490	1070	1370	75	93	45-150	25	30		
m&p-Xylene	ug/kg	<36.8	2840	2960	2270	3010	80	102	58-139	28	30		
Methyl-tert-butyl ether	ug/kg	<13.7	1420	1490	1080	1540	76	104	53-133	35	30	R1	
Methylene Chloride	ug/kg	<136	1420	1490	948	1320	67	89	42-135	33	30	R1	
Naphthalene	ug/kg	<17.7	1420	1490	1100	1500	78	101	41-150	30	30		
o-Xylene	ug/kg	<21.8	1420	1490	1070	1430	75	97	53-132	29	30		
Styrene	ug/kg	<19.1	1420	1490	1080	1460	76	98	53-137	30	30		
Tetrachloroethene	ug/kg	<28.0	1420	1490	1100	1460	78	98	53-138	28	30		
Tetrahydrofuran	ug/kg	<363	14200	14900	10800	14100	76	95	50-145	27	30		
Toluene	ug/kg	<23.3	1420	1490	1060	1380	74	94	55-134	27	30		
trans-1,2-Dichloroethene	ug/kg	<35.3	1420	1490	903	1220	64	82	44-135	30	30		
trans-1,3-Dichloropropene	ug/kg	<24.9	1420	1490	1100	1500	77	102	59-139	31	30	R1	
Trichloroethene	ug/kg	<21.0	1420	1490	1070	1470	75	100	52-143	32	30	R1	
Trichlorofluoromethane	ug/kg	<73.6	1420	1490	1170	1170	82	79	30-150	0	30		
Vinyl acetate	ug/kg	<77.5	1420	1490	1070	1510	75	102	30-150	34	30	R1	
Vinyl chloride	ug/kg	<9.4	1420	1490	955	957	67	65	36-127	0	30		
1,2-Dichloroethane-d4 (S)	%						103	108	75-129				
4-Bromofluorobenzene (S)	%						99	102	75-125				
Toluene-d8 (S)	%						103	102	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

QC Batch: 460867 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10379430017, 10379430018

METHOD BLANK: 2520540 Matrix: Solid
Associated Lab Samples: 10379430017, 10379430018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	02/21/17 13:23	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	02/21/17 13:23	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	02/21/17 13:23	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	02/21/17 13:23	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	02/21/17 13:23	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	02/21/17 13:23	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	02/21/17 13:23	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	02/21/17 13:23	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	02/21/17 13:23	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	02/21/17 13:23	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	02/21/17 13:23	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	02/21/17 13:23	
1,3-Dichlorobenzene	ug/kg	<14.7	50.0	14.7	02/21/17 13:23	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	02/21/17 13:23	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	02/21/17 13:23	
2-Hexanone	ug/kg	<58.9	250	58.9	02/21/17 13:23	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	02/21/17 13:23	
Acetone	ug/kg	<328	1000	328	02/21/17 13:23	
Benzene	ug/kg	<4.3	20.0	4.3	02/21/17 13:23	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	02/21/17 13:23	
Bromoform	ug/kg	<43.1	200	43.1	02/21/17 13:23	
Bromomethane	ug/kg	<50.7	500	50.7	02/21/17 13:23	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	02/21/17 13:23	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	02/21/17 13:23	
Chloroethane	ug/kg	<79.0	500	79.0	02/21/17 13:23	
Chloroform	ug/kg	<24.3	50.0	24.3	02/21/17 13:23	
Chloromethane	ug/kg	<24.2	200	24.2	02/21/17 13:23	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	02/21/17 13:23	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	02/21/17 13:23	
Dibromochloromethane	ug/kg	<42.9	200	42.9	02/21/17 13:23	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	02/21/17 13:23	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	02/21/17 13:23	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	02/21/17 13:23	
m&p-Xylene	ug/kg	<25.1	100	25.1	02/21/17 13:23	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	02/21/17 13:23	
Methylene Chloride	ug/kg	<92.6	200	92.6	02/21/17 13:23	
Naphthalene	ug/kg	<12.1	200	12.1	02/21/17 13:23	
o-Xylene	ug/kg	<14.9	50.0	14.9	02/21/17 13:23	
Styrene	ug/kg	<13.0	50.0	13.0	02/21/17 13:23	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	02/21/17 13:23	
Tetrahydrofuran	ug/kg	<248	2000	248	02/21/17 13:23	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

METHOD BLANK: 2520540

Matrix: Solid

Associated Lab Samples: 10379430017, 10379430018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Toluene	ug/kg	<15.9	50.0	15.9	02/21/17 13:23	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	02/21/17 13:23	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	02/21/17 13:23	
Trichloroethene	ug/kg	<14.3	50.0	14.3	02/21/17 13:23	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	02/21/17 13:23	
Vinyl acetate	ug/kg	<52.9	500	52.9	02/21/17 13:23	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	02/21/17 13:23	
1,2-Dichloroethane-d4 (S)	%	96	75-129		02/21/17 13:23	
4-Bromofluorobenzene (S)	%	101	75-125		02/21/17 13:23	
Toluene-d8 (S)	%	101	75-125		02/21/17 13:23	

LABORATORY CONTROL SAMPLE & LCSD: 2520541

2520542

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	947	903	95	90	64-132	5	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	827	765	83	77	50-138	8	20	
1,1,2-Trichloroethane	ug/kg	1000	889	810	89	81	69-126	9	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	853	820	85	82	53-144	4	20	
1,1-Dichloroethane	ug/kg	1000	894	840	89	84	61-134	6	20	
1,1-Dichloroethene	ug/kg	1000	889	881	89	88	57-135	1	20	
1,2,4-Trichlorobenzene	ug/kg	1000	834	807	83	81	38-138	3	20	
1,2,4-Trimethylbenzene	ug/kg	1000	844	809	84	81	70-127	4	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	878	798	88	80	69-130	10	20	
1,2-Dichlorobenzene	ug/kg	1000	858	808	86	81	72-125	6	20	
1,2-Dichloroethane	ug/kg	1000	843	792	84	79	62-125	6	20	
1,3,5-Trimethylbenzene	ug/kg	1000	898	865	90	87	71-129	4	20	
1,3-Dichlorobenzene	ug/kg	1000	850	815	85	82	72-126	4	20	
1,4-Dichlorobenzene	ug/kg	1000	822	783	82	78	70-126	5	20	
2-Butanone (MEK)	ug/kg	5000	4940	4330	99	87	38-149	13	20	
2-Hexanone	ug/kg	5000	5410	4750	108	95	47-139	13	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	5270	4690	105	94	52-145	12	20	
Acetone	ug/kg	5000	4110	3720	82	74	65-142	10	20	
Benzene	ug/kg	1000	939	902	94	90	64-125	4	20	
Bromodichloromethane	ug/kg	1000	886	821	89	82	67-125	8	20	
Bromoform	ug/kg	1000	800	743	80	74	56-127	7	20	
Bromomethane	ug/kg	1000	719	758	72	76	34-137	5	20	
Carbon tetrachloride	ug/kg	1000	900	877	90	88	58-138	3	20	
Chlorobenzene	ug/kg	1000	905	872	91	87	72-125	4	20	
Chloroethane	ug/kg	1000	741	747	74	75	39-148	1	20	
Chloroform	ug/kg	1000	880	841	88	84	67-125	5	20	
Chloromethane	ug/kg	1000	843	839	84	84	54-125	0	20	
cis-1,2-Dichloroethene	ug/kg	1000	923	890	92	89	67-125	4	20	
cis-1,3-Dichloropropene	ug/kg	1000	885	829	89	83	62-127	7	20	
Dibromochloromethane	ug/kg	1000	901	840	90	84	67-125	7	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

LABORATORY CONTROL SAMPLE & LCSD: 2520541		2520542								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dichlorodifluoromethane	ug/kg	1000	763	790	76	79	34-139	4	20	
Ethylbenzene	ug/kg	1000	875	845	88	84	70-129	4	20	
Hexachloro-1,3-butadiene	ug/kg	1000	770	853	77	85	48-126	10	20	
m&p-Xylene	ug/kg	2000	1800	1730	90	87	73-131	4	20	
Methyl-tert-butyl ether	ug/kg	1000	912	848	91	85	61-125	7	20	
Methylene Chloride	ug/kg	1000	839	821	84	82	60-126	2	20	
Naphthalene	ug/kg	1000	895	804	89	80	35-147	11	20	
o-Xylene	ug/kg	1000	863	818	86	82	74-127	5	20	
Styrene	ug/kg	1000	895	844	90	84	73-125	6	20	
Tetrachloroethene	ug/kg	1000	896	866	90	87	66-135	3	20	
Tetrahydrofuran	ug/kg	10000	8760	8140	88	81	66-145	7	20	
Toluene	ug/kg	1000	890	849	89	85	69-125	5	20	
trans-1,2-Dichloroethene	ug/kg	1000	826	782	83	78	55-135	6	20	
trans-1,3-Dichloropropene	ug/kg	1000	872	815	87	82	67-125	7	20	
Trichloroethene	ug/kg	1000	889	851	89	85	62-141	4	20	
Trichlorofluoromethane	ug/kg	1000	751	738	75	74	38-150	2	20	
Vinyl acetate	ug/kg	1000	931	869	93	87	52-125	7	20	
Vinyl chloride	ug/kg	1000	835	828	83	83	57-131	1	20	
1,2-Dichloroethane-d4 (S)	%				99	97	75-129			
4-Bromofluorobenzene (S)	%				99	98	75-125			
Toluene-d8 (S)	%				101	102	75-125			

MATRIX SPIKE SAMPLE: 2520543		10379546001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	ND	1230	1280	104	51-137	
1,1,2,2-Tetrachloroethane	ug/kg	ND	1230	1140	93	40-149	
1,1,2-Trichloroethane	ug/kg	ND	1230	1150	94	54-144	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	1230	1110	90	41-150	
1,1-Dichloroethane	ug/kg	ND	1230	1200	97	53-131	
1,1-Dichloroethene	ug/kg	ND	1230	1180	96	41-133	
1,2,4-Trichlorobenzene	ug/kg	ND	1230	1180	96	52-142	
1,2,4-Trimethylbenzene	ug/kg	ND	1230	1150	94	56-142	
1,2-Dibromoethane (EDB)	ug/kg	ND	1230	1170	95	57-136	
1,2-Dichlorobenzene	ug/kg	ND	1230	1160	94	59-136	
1,2-Dichloroethane	ug/kg	ND	1230	1160	94	52-133	
1,3,5-Trimethylbenzene	ug/kg	ND	1230	1240	101	54-143	
1,3-Dichlorobenzene	ug/kg	ND	1230	1160	94	60-137	
1,4-Dichlorobenzene	ug/kg	ND	1230	1120	91	51-132	
2-Butanone (MEK)	ug/kg	ND	6140	6720	109	46-125	
2-Hexanone	ug/kg	ND	6140	7070	115	52-128	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	6140	7030	114	47-146	
Acetone	ug/kg	ND	6140	6010	98	45-148	
Benzene	ug/kg	ND	1230	1250	102	41-134	
Bromodichloromethane	ug/kg	ND	1230	1160	94	55-136	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

MATRIX SPIKE SAMPLE: 2520543		10379546001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/kg	ND	1230	1070	87	51-139	
Bromomethane	ug/kg	ND	1230	1060	87	35-148	
Carbon tetrachloride	ug/kg	ND	1230	1240	101	50-140	
Chlorobenzene	ug/kg	ND	1230	1230	100	59-133	
Chloroethane	ug/kg	ND	1230	1120	91	30-150	
Chloroform	ug/kg	ND	1230	1200	97	58-128	
Chloromethane	ug/kg	ND	1230	1140	93	38-125	
cis-1,2-Dichloroethene	ug/kg	ND	1230	1210	99	59-125	
cis-1,3-Dichloropropene	ug/kg	ND	1230	1170	95	57-133	
Dibromochloromethane	ug/kg	ND	1230	1210	98	54-141	
Dichlorodifluoromethane	ug/kg	ND	1230	925	75	30-125	
Ethylbenzene	ug/kg	ND	1230	1200	98	56-141	
Hexachloro-1,3-butadiene	ug/kg	ND	1230	1030	84	45-150	
m&p-Xylene	ug/kg	ND	2460	2510	102	58-139	
Methyl-tert-butyl ether	ug/kg	ND	1230	1200	97	53-133	
Methylene Chloride	ug/kg	ND	1230	1130	92	42-135	
Naphthalene	ug/kg	ND	1230	1210	98	41-150	
o-Xylene	ug/kg	ND	1230	1160	94	53-132	
Styrene	ug/kg	ND	1230	1200	97	53-137	
Tetrachloroethene	ug/kg	ND	1230	1290	105	53-138	
Tetrahydrofuran	ug/kg	ND	12300	11800	96	50-145	
Toluene	ug/kg	ND	1230	1200	98	55-134	
trans-1,2-Dichloroethene	ug/kg	ND	1230	1070	87	44-135	
trans-1,3-Dichloropropene	ug/kg	ND	1230	1190	97	59-139	
Trichloroethene	ug/kg	ND	1230	1180	96	52-143	
Trichlorofluoromethane	ug/kg	ND	1230	1110	90	30-150	
Vinyl acetate	ug/kg	ND	1230	1250	101	30-150	
Vinyl chloride	ug/kg	ND	1230	1090	89	36-127	
1,2-Dichloroethane-d4 (S)	%				102	75-129	
4-Bromofluorobenzene (S)	%				99	75-125	
Toluene-d8 (S)	%				102	75-125	

SAMPLE DUPLICATE: 2520544

Parameter	Units	10379546002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1-Trichloroethane	ug/kg	ND	<26.7		30	
1,1,2,2-Tetrachloroethane	ug/kg	ND	<14.2		30	
1,1,2-Trichloroethane	ug/kg	ND	<13.8		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	ND	<46.0		30	
1,1-Dichloroethane	ug/kg	ND	<24.8		30	
1,1-Dichloroethene	ug/kg	ND	<16.2		30	
1,2,4-Trichlorobenzene	ug/kg	ND	<19.7		30	
1,2,4-Trimethylbenzene	ug/kg	ND	<14.0		30	
1,2-Dibromoethane (EDB)	ug/kg	ND	<24.0		30	
1,2-Dichlorobenzene	ug/kg	ND	<12.3		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

SAMPLE DUPLICATE: 2520544

Parameter	Units	10379546002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/kg	ND	<20.2		30	
1,3,5-Trimethylbenzene	ug/kg	ND	<14.7		30	
1,3-Dichlorobenzene	ug/kg	ND	<18.8		30	
1,4-Dichlorobenzene	ug/kg	ND	<18.5		30	
2-Butanone (MEK)	ug/kg	ND	<84.3		30	
2-Hexanone	ug/kg	ND	<75.2		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	<42.3		30	
Acetone	ug/kg	ND	<419		30	
Benzene	ug/kg	ND	<5.5		30	
Bromodichloromethane	ug/kg	ND	<17.9		30	
Bromoform	ug/kg	ND	<55.0		30	
Bromomethane	ug/kg	ND	<64.7		30	
Carbon tetrachloride	ug/kg	ND	<20.0		30	
Chlorobenzene	ug/kg	ND	<11.1		30	
Chloroethane	ug/kg	ND	<101		30	
Chloroform	ug/kg	ND	<31.0		30	
Chloromethane	ug/kg	ND	<30.9		30	
cis-1,2-Dichloroethene	ug/kg	ND	<23.7		30	
cis-1,3-Dichloropropene	ug/kg	ND	<29.1		30	
Dibromochloromethane	ug/kg	ND	<54.8		30	
Dichlorodifluoromethane	ug/kg	ND	<19.5		30	
Ethylbenzene	ug/kg	ND	<20.3		30	
Hexachloro-1,3-butadiene	ug/kg	ND	<60.0		30	
m&p-Xylene	ug/kg	ND	<32.0		30	
Methyl-tert-butyl ether	ug/kg	ND	<12.0		30	
Methylene Chloride	ug/kg	ND	<118		30	
Naphthalene	ug/kg	ND	<15.4		30	
o-Xylene	ug/kg	ND	<19.0		30	
Styrene	ug/kg	ND	<16.6		30	
Tetrachloroethene	ug/kg	ND	<24.4		30	
Tetrahydrofuran	ug/kg	ND	<317		30	
Toluene	ug/kg	ND	<20.3		30	
trans-1,2-Dichloroethene	ug/kg	ND	<30.8		30	
trans-1,3-Dichloropropene	ug/kg	ND	<21.7		30	
Trichloroethene	ug/kg	ND	<18.3		30	
Trichlorofluoromethane	ug/kg	ND	<64.1		30	
Vinyl acetate	ug/kg	ND	<67.5		30	
Vinyl chloride	ug/kg	ND	<8.2		30	
1,2-Dichloroethane-d4 (S)	%	96	97	4		
4-Bromofluorobenzene (S)	%	102	101	3		
Toluene-d8 (S)	%	101	102	4		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

QC Batch: 460993 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10379430001, 10379430019, 10379430020, 10379430021, 10379430022, 10379430023, 10379430024, 10379430025, 10379430026, 10379430027, 10379430028, 10379430029, 10379430030, 10379430031

METHOD BLANK: 2521165 Matrix: Solid
Associated Lab Samples: 10379430001, 10379430019, 10379430020, 10379430021, 10379430022, 10379430023, 10379430024, 10379430025, 10379430026, 10379430027, 10379430028, 10379430029, 10379430030, 10379430031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<20.9	50.0	20.9	02/21/17 20:52	
1,1,2,2-Tetrachloroethane	ug/kg	<11.1	50.0	11.1	02/21/17 20:52	
1,1,2-Trichloroethane	ug/kg	<10.8	50.0	10.8	02/21/17 20:52	
1,1,2-Trichlorotrifluoroethane	ug/kg	<36.0	200	36.0	02/21/17 20:52	
1,1-Dichloroethane	ug/kg	<19.4	50.0	19.4	02/21/17 20:52	
1,1-Dichloroethene	ug/kg	<12.7	50.0	12.7	02/21/17 20:52	
1,2,4-Trichlorobenzene	ug/kg	<15.4	50.0	15.4	02/21/17 20:52	
1,2,4-Trimethylbenzene	ug/kg	<11.0	50.0	11.0	02/21/17 20:52	
1,2-Dibromoethane (EDB)	ug/kg	<18.8	50.0	18.8	02/21/17 20:52	
1,2-Dichlorobenzene	ug/kg	<9.7	50.0	9.7	02/21/17 20:52	
1,2-Dichloroethane	ug/kg	<15.8	50.0	15.8	02/21/17 20:52	
1,3,5-Trimethylbenzene	ug/kg	<11.5	50.0	11.5	02/21/17 20:52	
1,3-Dichlorobenzene	ug/kg	<14.7	50.0	14.7	02/21/17 20:52	
1,4-Dichlorobenzene	ug/kg	<14.5	50.0	14.5	02/21/17 20:52	
2-Butanone (MEK)	ug/kg	<66.0	250	66.0	02/21/17 20:52	
2-Hexanone	ug/kg	<58.9	250	58.9	02/21/17 20:52	
4-Methyl-2-pentanone (MIBK)	ug/kg	<33.1	250	33.1	02/21/17 20:52	
Acetone	ug/kg	<328	1000	328	02/21/17 20:52	
Benzene	ug/kg	<4.3	20.0	4.3	02/21/17 20:52	
Bromodichloromethane	ug/kg	<14.0	50.0	14.0	02/21/17 20:52	
Bromoform	ug/kg	<43.1	200	43.1	02/21/17 20:52	
Bromomethane	ug/kg	<50.7	500	50.7	02/21/17 20:52	
Carbon tetrachloride	ug/kg	<15.7	50.0	15.7	02/21/17 20:52	
Chlorobenzene	ug/kg	<8.7	50.0	8.7	02/21/17 20:52	
Chloroethane	ug/kg	<79.0	500	79.0	02/21/17 20:52	
Chloroform	ug/kg	<24.3	50.0	24.3	02/21/17 20:52	
Chloromethane	ug/kg	<24.2	200	24.2	02/21/17 20:52	
cis-1,2-Dichloroethene	ug/kg	<18.6	50.0	18.6	02/21/17 20:52	
cis-1,3-Dichloropropene	ug/kg	<22.8	50.0	22.8	02/21/17 20:52	
Dibromochloromethane	ug/kg	<42.9	200	42.9	02/21/17 20:52	
Dichlorodifluoromethane	ug/kg	<15.3	200	15.3	02/21/17 20:52	
Ethylbenzene	ug/kg	<15.9	50.0	15.9	02/21/17 20:52	
Hexachloro-1,3-butadiene	ug/kg	<47.0	250	47.0	02/21/17 20:52	
m&p-Xylene	ug/kg	<25.1	100	25.1	02/21/17 20:52	
Methyl-tert-butyl ether	ug/kg	<9.4	50.0	9.4	02/21/17 20:52	
Methylene Chloride	ug/kg	<92.6	200	92.6	02/21/17 20:52	
Naphthalene	ug/kg	<12.1	200	12.1	02/21/17 20:52	
o-Xylene	ug/kg	<14.9	50.0	14.9	02/21/17 20:52	
Styrene	ug/kg	<13.0	50.0	13.0	02/21/17 20:52	
Tetrachloroethene	ug/kg	<19.1	50.0	19.1	02/21/17 20:52	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

METHOD BLANK: 2521165

Matrix: Solid

Associated Lab Samples: 10379430001, 10379430019, 10379430020, 10379430021, 10379430022, 10379430023, 10379430024, 10379430025, 10379430026, 10379430027, 10379430028, 10379430029, 10379430030, 10379430031

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Tetrahydrofuran	ug/kg	<248	2000	248	02/21/17 20:52	
Toluene	ug/kg	<15.9	50.0	15.9	02/21/17 20:52	
trans-1,2-Dichloroethene	ug/kg	<24.1	50.0	24.1	02/21/17 20:52	
trans-1,3-Dichloropropene	ug/kg	<17.0	200	17.0	02/21/17 20:52	
Trichloroethene	ug/kg	<14.3	50.0	14.3	02/21/17 20:52	
Trichlorofluoromethane	ug/kg	<50.2	200	50.2	02/21/17 20:52	
Vinyl acetate	ug/kg	<52.9	500	52.9	02/21/17 20:52	
Vinyl chloride	ug/kg	<6.4	20.0	6.4	02/21/17 20:52	
1,2-Dichloroethane-d4 (S)	%	98	75-129		02/21/17 20:52	
4-Bromofluorobenzene (S)	%	100	75-125		02/21/17 20:52	
Toluene-d8 (S)	%	101	75-125		02/21/17 20:52	

LABORATORY CONTROL SAMPLE & LCSD: 2521166

2521167

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	1000	872	1040	87	104	64-132	17	20	
1,1,2,2-Tetrachloroethane	ug/kg	1000	761	910	76	91	50-138	18	20	
1,1,2-Trichloroethane	ug/kg	1000	774	941	77	94	69-126	20	20	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	779	915	78	91	53-144	16	20	
1,1-Dichloroethane	ug/kg	1000	834	1010	83	101	61-134	19	20	
1,1-Dichloroethene	ug/kg	1000	797	962	80	96	57-135	19	20	
1,2,4-Trichlorobenzene	ug/kg	1000	742	934	74	93	38-138	23	20	R1
1,2,4-Trimethylbenzene	ug/kg	1000	772	931	77	93	70-127	19	20	
1,2-Dibromoethane (EDB)	ug/kg	1000	754	890	75	89	69-130	17	20	
1,2-Dichlorobenzene	ug/kg	1000	752	914	75	91	72-125	19	20	
1,2-Dichloroethane	ug/kg	1000	774	910	77	91	62-125	16	20	
1,3,5-Trimethylbenzene	ug/kg	1000	835	1010	84	101	71-129	19	20	
1,3-Dichlorobenzene	ug/kg	1000	766	904	77	90	72-126	17	20	
1,4-Dichlorobenzene	ug/kg	1000	758	882	76	88	70-126	15	20	
2-Butanone (MEK)	ug/kg	5000	4080	4690	82	94	38-149	14	20	
2-Hexanone	ug/kg	5000	4430	5240	89	105	47-139	17	20	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4450	5210	89	104	52-145	16	20	
Acetone	ug/kg	5000	3390	4300	68	86	65-142	24	20	R1
Benzene	ug/kg	1000	845	1010	85	101	64-125	18	20	
Bromodichloromethane	ug/kg	1000	770	935	77	93	67-125	19	20	
Bromoform	ug/kg	1000	732	887	73	89	56-127	19	20	
Bromomethane	ug/kg	1000	706	831	71	83	34-137	16	20	
Carbon tetrachloride	ug/kg	1000	806	1020	81	102	58-138	24	20	R1
Chlorobenzene	ug/kg	1000	824	972	82	97	72-125	16	20	
Chloroethane	ug/kg	1000	746	860	75	86	39-148	14	20	
Chloroform	ug/kg	1000	806	970	81	97	67-125	18	20	
Chloromethane	ug/kg	1000	774	882	77	88	54-125	13	20	
cis-1,2-Dichloroethene	ug/kg	1000	830	1050	83	105	67-125	24	20	R1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

LABORATORY CONTROL SAMPLE & LCSD: 2521166		2521167								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
cis-1,3-Dichloropropene	ug/kg	1000	814	960	81	96	62-127	16	20	
Dibromochloromethane	ug/kg	1000	775	928	78	93	67-125	18	20	
Dichlorodifluoromethane	ug/kg	1000	637	708	64	71	34-139	10	20	
Ethylbenzene	ug/kg	1000	850	1010	85	101	70-129	17	20	
Hexachloro-1,3-butadiene	ug/kg	1000	805	996	80	100	48-126	21	20	R1
m&p-Xylene	ug/kg	2000	1750	2070	87	103	73-131	17	20	
Methyl-tert-butyl ether	ug/kg	1000	806	970	81	97	61-125	18	20	
Methylene Chloride	ug/kg	1000	771	949	77	95	60-126	21	20	R1
Naphthalene	ug/kg	1000	760	926	76	93	35-147	20	20	
o-Xylene	ug/kg	1000	801	968	80	97	74-127	19	20	
Styrene	ug/kg	1000	796	937	80	94	73-125	16	20	
Tetrachloroethene	ug/kg	1000	861	1010	86	101	66-135	16	20	
Tetrahydrofuran	ug/kg	10000	8070	9770	81	98	66-145	19	20	
Toluene	ug/kg	1000	830	981	83	98	69-125	17	20	
trans-1,2-Dichloroethene	ug/kg	1000	815	988	81	99	55-135	19	20	
trans-1,3-Dichloropropene	ug/kg	1000	823	980	82	98	67-125	17	20	
Trichloroethene	ug/kg	1000	809	957	81	96	62-141	17	20	
Trichlorofluoromethane	ug/kg	1000	726	826	73	83	38-150	13	20	
Vinyl acetate	ug/kg	1000	780	959	78	96	52-125	21	20	R1
Vinyl chloride	ug/kg	1000	757	872	76	87	57-131	14	20	
1,2-Dichloroethane-d4 (S)	%				100	98	75-129			
4-Bromofluorobenzene (S)	%				99	99	75-125			
Toluene-d8 (S)	%				103	104	75-125			

MATRIX SPIKE SAMPLE: 2521168		10379430019		Spike		MS		% Rec		Qualifiers
Parameter	Units	Result	Conc.	Result	% Rec	Result	% Rec	Limits		
1,1,1-Trichloroethane	ug/kg	<25.8	1220	1660	136			51-137		
1,1,2,2-Tetrachloroethane	ug/kg	<13.7	1220	1610	132			40-149		
1,1,2-Trichloroethane	ug/kg	<13.3	1220	1560	128			54-144		
1,1,2-Trichlorotrifluoroethane	ug/kg	<44.5	1220	1150	94			41-150		
1,1-Dichloroethane	ug/kg	<24.0	1220	1570	129			53-131		
1,1-Dichloroethene	ug/kg	<15.7	1220	1330	109			41-133		
1,2,4-Trichlorobenzene	ug/kg	<19.0	1220	1540	127			52-142		
1,2,4-Trimethylbenzene	ug/kg	<13.6	1220	1570	129			56-142		
1,2-Dibromoethane (EDB)	ug/kg	<23.2	1220	1540	126			57-136		
1,2-Dichlorobenzene	ug/kg	<11.9	1220	1540	126			59-136		
1,2-Dichloroethane	ug/kg	<19.5	1220	1480	121			52-133		
1,3,5-Trimethylbenzene	ug/kg	<14.2	1220	1690	138			54-143		
1,3-Dichlorobenzene	ug/kg	<18.2	1220	1540	126			60-137		
1,4-Dichlorobenzene	ug/kg	<17.9	1220	1510	124			51-132		
2-Butanone (MEK)	ug/kg	<81.6	6100	8400	138			46-125	M1	
2-Hexanone	ug/kg	<72.8	6100	9460	155			52-128	M1	
4-Methyl-2-pentanone (MIBK)	ug/kg	<40.9	6100	9670	158			47-146	M1	
Acetone	ug/kg	<405	6100	6750	111			45-148		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

MATRIX SPIKE SAMPLE: 2521168		10379430019	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Benzene	ug/kg	<5.3	1220	1580	130	41-134	
Bromodichloromethane	ug/kg	<17.3	1220	1620	133	55-136	
Bromoform	ug/kg	<53.3	1220	1640	134	51-139	
Bromomethane	ug/kg	<62.7	1220	1270	104	35-148	
Carbon tetrachloride	ug/kg	<19.4	1220	1560	128	50-140	
Chlorobenzene	ug/kg	<10.8	1220	1610	132	59-133	
Chloroethane	ug/kg	<97.6	1220	1340	110	30-150	
Chloroform	ug/kg	<30.0	1220	1540	126	58-128	
Chloromethane	ug/kg	<29.9	1220	1210	99	38-125	
cis-1,2-Dichloroethene	ug/kg	<23.0	1220	1590	131	59-125	M1
cis-1,3-Dichloropropene	ug/kg	<28.2	1220	1620	133	57-133	
Dibromochloromethane	ug/kg	<53.0	1220	1630	134	54-141	
Dichlorodifluoromethane	ug/kg	<18.9	1220	510	42	30-125	
Ethylbenzene	ug/kg	<19.7	1220	1680	138	56-141	
Hexachloro-1,3-butadiene	ug/kg	<58.1	1220	1500	123	45-150	
m&p-Xylene	ug/kg	<31.0	2450	3420	140	58-139	M1
Methyl-tert-butyl ether	ug/kg	<11.6	1220	1600	131	53-133	
Methylene Chloride	ug/kg	<114	1220	1440	118	42-135	
Naphthalene	ug/kg	<15.0	1220	1670	137	41-150	
o-Xylene	ug/kg	<18.4	1220	1600	131	53-132	
Styrene	ug/kg	<16.1	1220	1570	129	53-137	
Tetrachloroethene	ug/kg	<23.6	1220	1580	129	53-138	
Tetrahydrofuran	ug/kg	<307	12200	14900	122	50-145	
Toluene	ug/kg	<19.7	1220	1590	130	55-134	
trans-1,2-Dichloroethene	ug/kg	<29.8	1220	1280	105	44-135	
trans-1,3-Dichloropropene	ug/kg	<21.0	1220	1620	133	59-139	
Trichloroethene	ug/kg	<17.7	1220	1550	127	52-143	
Trichlorofluoromethane	ug/kg	<62.0	1220	1250	103	30-150	
Vinyl acetate	ug/kg	<65.4	1220	1610	132	30-150	
Vinyl chloride	ug/kg	<7.9	1220	1130	93	36-127	
1,2-Dichloroethane-d4 (S)	%				100	75-129	
4-Bromofluorobenzene (S)	%				99	75-125	
Toluene-d8 (S)	%				103	75-125	

SAMPLE DUPLICATE: 2521169

Parameter	Units	10379430020 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	<27.7	<31.0		30	
1,1,2,2-Tetrachloroethane	ug/kg	<14.7	<16.5		30	
1,1,2-Trichloroethane	ug/kg	<14.3	<16.0		30	
1,1,2-Trichlorotrifluoroethane	ug/kg	<47.8	<53.5		30	
1,1-Dichloroethane	ug/kg	<25.8	<28.8		30	
1,1-Dichloroethene	ug/kg	<16.9	<18.9		30	
1,2,4-Trichlorobenzene	ug/kg	<20.4	<22.9		30	
1,2,4-Trimethylbenzene	ug/kg	<14.6	<16.3		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

SAMPLE DUPLICATE: 2521169

Parameter	Units	10379430020 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/kg	<25.0	<27.9		30	
1,2-Dichlorobenzene	ug/kg	<12.8	<14.3		30	
1,2-Dichloroethane	ug/kg	<21.0	<23.5		30	
1,3,5-Trimethylbenzene	ug/kg	<15.3	<17.1		30	
1,3-Dichlorobenzene	ug/kg	<19.5	<21.8		30	
1,4-Dichlorobenzene	ug/kg	<19.2	<21.5		30	
2-Butanone (MEK)	ug/kg	<87.6	<98.0		30	
2-Hexanone	ug/kg	<78.2	<87.5		30	
4-Methyl-2-pentanone (MIBK)	ug/kg	<43.9	<49.2		30	
Acetone	ug/kg	<435	<487		30	
Benzene	ug/kg	<5.7	<6.4		30	
Bromodichloromethane	ug/kg	<18.6	<20.8		30	
Bromoform	ug/kg	<57.2	<64.0		30	
Bromomethane	ug/kg	<67.3	<75.3		30	
Carbon tetrachloride	ug/kg	<20.8	<23.3		30	
Chlorobenzene	ug/kg	<11.5	<12.9		30	
Chloroethane	ug/kg	<105	<117		30	
Chloroform	ug/kg	<32.3	<36.1		30	
Chloromethane	ug/kg	<32.1	<35.9		30	
cis-1,2-Dichloroethene	ug/kg	<24.7	<27.6		30	
cis-1,3-Dichloropropene	ug/kg	<30.3	<33.9		30	
Dibromochloromethane	ug/kg	<56.9	<63.7		30	
Dichlorodifluoromethane	ug/kg	<20.3	<22.7		30	
Ethylbenzene	ug/kg	<21.1	<23.6		30	
Hexachloro-1,3-butadiene	ug/kg	<62.4	<69.8		30	
m&p-Xylene	ug/kg	<33.3	<37.3		30	
Methyl-tert-butyl ether	ug/kg	<12.4	<13.9		30	
Methylene Chloride	ug/kg	<123	<138		30	
Naphthalene	ug/kg	<16.1	<18.0		30	
o-Xylene	ug/kg	<19.8	<22.1		30	
Styrene	ug/kg	<17.3	<19.3		30	
Tetrachloroethene	ug/kg	<25.4	<28.4		30	
Tetrahydrofuran	ug/kg	<329	<368		30	
Toluene	ug/kg	<21.1	<23.6		30	
trans-1,2-Dichloroethene	ug/kg	<32.0	<35.8		30	
trans-1,3-Dichloropropene	ug/kg	<22.6	<25.2		30	
Trichloroethene	ug/kg	<19.0	<21.2		30	
Trichlorofluoromethane	ug/kg	<66.6	<74.6		30	
Vinyl acetate	ug/kg	<70.2	<78.6		30	
Vinyl chloride	ug/kg	<8.5	<9.5		30	
1,2-Dichloroethane-d4 (S)	%	98	99	12		
4-Bromofluorobenzene (S)	%	103	101	9		
Toluene-d8 (S)	%	103	102	10		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 10379430001

[1] MSV location 7-39

ANALYTE QUALIFIERS

1M Unable to achieve 1:1 ratio. No MeOH added.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV 5030 Med Level	Solid	SW-846 8260B	SW-846 5030B

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10379430

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10379430001	SB40-SS-05	ASTM D2974	460866		
10379430002	SB40-SS-10	ASTM D2974	460866		
10379430003	SB40-SS-15	ASTM D2974	460866		
10379430004	SB40-SS-20	ASTM D2974	460866		
10379430005	SB40-SS-25	ASTM D2974	460866		
10379430006	SB40-SS-30	ASTM D2974	460866		
10379430007	SB40-SS-35	ASTM D2974	460866		
10379430008	SB40-SS-40	ASTM D2974	460866		
10379430009	SB40-SS-45	ASTM D2974	460866		
10379430010	SB40-SS-50	ASTM D2974	460866		
10379430011	SB40-SS-55	ASTM D2974	460866		
10379430012	SB40-SS-60	ASTM D2974	460866		
10379430013	SB40-SS-65	ASTM D2974	460933		
10379430014	SB40-SS-70	ASTM D2974	460933		
10379430015	SB40-SS-75	ASTM D2974	460933		
10379430016	SB40-SS-80	ASTM D2974	460933		
10379430017	SB40-SS-85	ASTM D2974	460933		
10379430018	SB40-SS-90	ASTM D2974	460933		
10379430019	SB40-SS-95	ASTM D2974	460933		
10379430020	SSFD1	ASTM D2974	460933		
10379430021	SSFD2	ASTM D2974	460933		
10379430022	SB41-SS-05	ASTM D2974	460933		
10379430023	SB41-SS-10	ASTM D2974	460933		
10379430024	SB41-SS-15	ASTM D2974	460933		
10379430025	SB41-SS-20	ASTM D2974	460933		
10379430026	SB41-SS-25	ASTM D2974	460933		
10379430027	SB41-SS-30	ASTM D2974	460933		
10379430028	SB41-SS-35	ASTM D2974	460933		
10379430029	SB41-SS-40	ASTM D2974	460933		
10379430030	SB41-SS-45	ASTM D2974	460947		
10379430031	SSFD3	ASTM D2974	460947		
10379430001	SB40-SS-05	EPA 5035/5030B	460993	EPA 8260B	461078
10379430002	SB40-SS-10	EPA 5035/5030B	460762	EPA 8260B	460864
10379430003	SB40-SS-15	EPA 5035/5030B	460762	EPA 8260B	460864
10379430004	SB40-SS-20	EPA 5035/5030B	460762	EPA 8260B	460864
10379430005	SB40-SS-25	EPA 5035/5030B	460762	EPA 8260B	460864
10379430006	SB40-SS-30	EPA 5035/5030B	460762	EPA 8260B	460864
10379430007	SB40-SS-35	EPA 5035/5030B	460762	EPA 8260B	460864
10379430008	SB40-SS-40	EPA 5035/5030B	460762	EPA 8260B	460864
10379430009	SB40-SS-45	EPA 5035/5030B	460762	EPA 8260B	460864
10379430010	SB40-SS-50	EPA 5035/5030B	460762	EPA 8260B	460864
10379430011	SB40-SS-55	EPA 5035/5030B	460762	EPA 8260B	460864
10379430012	SB40-SS-60	EPA 5035/5030B	460762	EPA 8260B	460864
10379430013	SB40-SS-65	EPA 5035/5030B	460762	EPA 8260B	460864
10379430014	SB40-SS-70	EPA 5035/5030B	460762	EPA 8260B	460864
10379430015	SB40-SS-75	EPA 5035/5030B	460762	EPA 8260B	460864
10379430016	SB40-SS-80	EPA 5035/5030B	460762	EPA 8260B	460864

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10379430

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10379430017	SB40-SS-85	EPA 5035/5030B	460867	EPA 8260B	461077
10379430018	SB40-SS-90	EPA 5035/5030B	460867	EPA 8260B	461077
10379430019	SB40-SS-95	EPA 5035/5030B	460993	EPA 8260B	461078
10379430020	SSFD1	EPA 5035/5030B	460993	EPA 8260B	461078
10379430021	SSFD2	EPA 5035/5030B	460993	EPA 8260B	461078
10379430022	SB41-SS-05	EPA 5035/5030B	460993	EPA 8260B	461078
10379430023	SB41-SS-10	EPA 5035/5030B	460993	EPA 8260B	461078
10379430024	SB41-SS-15	EPA 5035/5030B	460993	EPA 8260B	461078
10379430025	SB41-SS-20	EPA 5035/5030B	460993	EPA 8260B	461078
10379430026	SB41-SS-25	EPA 5035/5030B	460993	EPA 8260B	461078
10379430027	SB41-SS-30	EPA 5035/5030B	460993	EPA 8260B	461078
10379430028	SB41-SS-35	EPA 5035/5030B	460993	EPA 8260B	461078
10379430029	SB41-SS-40	EPA 5035/5030B	460993	EPA 8260B	461078
10379430030	SB41-SS-45	EPA 5035/5030B	460993	EPA 8260B	461078
10379430031	SSFD3	EPA 5035/5030B	460993	EPA 8260B	461078

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10379430

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	CH2M Hill	Report To:	Mark Ochstner, Brad Ostapukowicz	Attention:	Gary Honeysman
Address:	999 W. Riverside Ave, Suite 500 Spokane, WA 99201	Copy To:	Steve Demus	Company Name:	UPRR
Email:	mark.ochstner@ch2m.com	Purchase Order #:		Address:	CAS
Phone:		Project Name:	UPRR_Freeman	Pace Quote:	
Requested Due Date/Circle:	24 Hr / 3 Day / 5 Day / 10 Day	Project #:	1497	Pace Project Manager:	
				Pace Profile #:	36447 / 3
				Regulatory Agency:	
				State / Location:	WA / Freeman

Page: 1 of 3

ITEM #	MATRIX	CODE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	PRESERVATIVES							ANALYSES TEST	Y/N	VOCs by 8260	Dry Weight	Requested/Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
			START	END				UNPRESERVED	H2SO4	HCl	NaOH	Na2SO3	Methanol	Other						
1	SB 40-SS-05	SLG	9/3/10	1000	3														001	
2	SB 40-SS-10			1015	3														002	
3	SB 40-SS-15			1020	3														003	
4	SB 40-SS-20			1035	3														004	
5	SB 40-SS-25			1040	3														005	
6	SB 40-SS-30			1055	3														006	
7	SB 40-SS-35			1100	3														007	
8	SB 40-SS-40			1120	3														008	
9	SB 40-SS-45			1125	7														MS/MSD 009	
10	SB 40-SS-50			1145	3														010	
11	SB 40-SS-55			1150	3														011	
12	SB 40-SS-60			1205	3														012	

REQUISITIONED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	RECEIVED ON	TEMP IN C	Received on	Ice (Y/N)	Sealed (Y/N)	Custody (Y/N)	Cooler (Y/N)	Samples (Y/N)
SPR / CH2M	9/6/17		MARK OCHSTNER AND	9/17/17	945	1347	Y	Y	Y	Y	Y	Y	Y
ADDITIONAL COMMENTS:													
SAMPLER NAME AND SIGNATURE: L.K. B. Gammann													
PRINT Name of SAMPLER: L.K. B. Gammann													
SIGNATURE of SAMPLER:													
DATE Signed: 2/15/17													



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10379430

Page: 2 of 3

Section A		Section B		Section C	
Required Client Information:		Required Project Information:		Invoice Information:	
Company: CH2M Hill	Report To: Mark Ochsen, Brad Ostapowicz	Attention: Gary Honeyman	Company Name: UPRR	Regulatory Agency	
Address: 999 W. Riverside Ave, Suite 500	Copy To: Steve Demus	Address: CAS		State / Location: WA / Freeman	
Email: mark.ochsen@ch2m.com	Purchase Order #: UPRR_Freeman	Pace Quote: 1497		Pace Project Manager:	
Phone: [] Fax: []	Project #: 1497	Pace Profile #: 36447 / 1		Requested Analysis: []	
Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day					

ITEM #	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES							ANALYSES TEST Y/N	Low-Level VOCs by 8260	Residual Chlorine (Y/N)	Received on	TEMP in C	Samples Inlect (Y/N)	Cooler (Y/N)	Sealed (Y/N)	Custody (Y/N)								
			START DATE	END DATE			H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other																	
1	SLG		2/13/17	12:10		3	X	X	X	X	X	X	X	X	X	X		013												
2	SB40-SS-65			12:40		3	X	X	X	X	X	X	X	X	X	X		014												
3	SB40-SS-75			12:45		3	X	X	X	X	X	X	X	X	X	X		015												
4	SB40-SS-80			13:10		3	X	X	X	X	X	X	X	X	X	X		016												
5	SB40-SS-85			13:15		3	X	X	X	X	X	X	X	X	X	X		017												
6	SB40-SS-90			13:40		3	X	X	X	X	X	X	X	X	X	X		018												
7	SB40-SS-95			13:45		3	X	X	X	X	X	X	X	X	X	X		019												
8	SSFD1			0900		3	X	X	X	X	X	X	X	X	X	X		Field Dep 020												
9	SSFD2			0900		3	X	X	X	X	X	X	X	X	X	X		Field Dep 021												
10																														
11																														
12																														

ADDITIONAL COMMENTS		RELINQUISHED BY (AFFILIATION)	DATE	TIME	ACCEPTED BY (AFFILIATION)	DATE	TIME	SAMPLE CONDITIONS
[]		SB Deming/CH2M	2/15/17		MMMC	2/17/17	9:55	7 7 7
SAMPLER NAME AND SIGNATURE		PRINT Name of SAMPLER: LK [Signature]		SIGNATURE of SAMPLER: [Signature]		DATE Signed: 2/15/17		



Document Name:
Sample Condition Upon Receipt Form - ESI

Document No.:
F-MN-L-210-rev.22

Document Revised: 21Dec2016
Page 1 of 2

Issuing Authority:
Pace Minnesota Quality Office

Sample Condition
Upon Receipt - ESI
Tech Specs

Client Name:
Ch2M Hill

Project #:

WO# : 10379430



10379430

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: **709638716231 / 70214575 6712**

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 151401164

Cooler Temp Read (°C): **1.1/1.8** Cooler Temp Corrected (°C): **1.2/1.7** Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: **70.1** Date and Initials of Person Examining Contents: **2/19/17 CW**

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12.
-Includes Date/Time/ID/Analysis Matrix:	SL		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH	Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #	
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed:	Lot # of added preservative:
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		14.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		15.
Pace Trip Blank Lot # (if purchased):			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: 1450	Temp: 1.1/1.8	Corrected Temp: 1.2/1.7
Time: 1515	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review:

JENNI GROSS

Date: **02/17/17**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

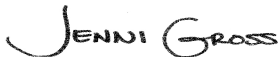
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380460001	MW13S-GW-022817	Water	02/28/17 09:00	03/01/17 11:15

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380460001	MW13S-GW-022817	EPA 8260B	DJB	83	PASI-M

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

Sample: MW13S-GW-022817 Lab ID: 10380460001 Collected: 02/28/17 09:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/02/17 17:02	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/02/17 17:02	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:02	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/02/17 17:02	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/02/17 17:02	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:02	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/02/17 17:02	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/02/17 17:02	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/02/17 17:02	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/02/17 17:02	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/02/17 17:02	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/02/17 17:02	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/02/17 17:02	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/02/17 17:02	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/02/17 17:02	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/02/17 17:02	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/02/17 17:02	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/02/17 17:02	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/02/17 17:02	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/02/17 17:02	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/02/17 17:02	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/02/17 17:02	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/02/17 17:02	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/02/17 17:02	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/02/17 17:02	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/02/17 17:02	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/02/17 17:02	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/02/17 17:02	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/02/17 17:02	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/02/17 17:02	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/02/17 17:02	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/02/17 17:02	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/02/17 17:02	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/02/17 17:02	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/02/17 17:02	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/02/17 17:02	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/02/17 17:02	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/02/17 17:02	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/02/17 17:02	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/02/17 17:02	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/02/17 17:02	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/02/17 17:02	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/02/17 17:02	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/02/17 17:02	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/02/17 17:02	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/02/17 17:02	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

Sample: MW13S-GW-022817 **Lab ID: 10380460001** Collected: 02/28/17 09:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/02/17 17:02	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/02/17 17:02	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/02/17 17:02	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/02/17 17:02	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/02/17 17:02	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/02/17 17:02	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/02/17 17:02	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/02/17 17:02	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/02/17 17:02	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/02/17 17:02	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/02/17 17:02	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/02/17 17:02	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/02/17 17:02	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/02/17 17:02	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/02/17 17:02	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/02/17 17:02	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:02	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/02/17 17:02	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/02/17 17:02	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/02/17 17:02	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/02/17 17:02	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/02/17 17:02	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/02/17 17:02	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/02/17 17:02	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/02/17 17:02	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/02/17 17:02	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/02/17 17:02	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/02/17 17:02	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/02/17 17:02	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/02/17 17:02	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/02/17 17:02	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/02/17 17:02	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/02/17 17:02	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/02/17 17:02	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/02/17 17:02	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/02/17 17:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		03/02/17 17:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

QC Batch: 462059 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380460001

METHOD BLANK: 2526617 Matrix: Water
Associated Lab Samples: 10380460001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/02/17 12:12	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/02/17 12:12	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/02/17 12:12	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/02/17 12:12	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/02/17 12:12	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/02/17 12:12	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/02/17 12:12	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/02/17 12:12	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/02/17 12:12	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/02/17 12:12	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/02/17 12:12	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/02/17 12:12	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/02/17 12:12	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/02/17 12:12	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/02/17 12:12	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/02/17 12:12	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/02/17 12:12	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/02/17 12:12	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/02/17 12:12	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/02/17 12:12	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/02/17 12:12	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/02/17 12:12	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/02/17 12:12	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/02/17 12:12	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/02/17 12:12	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/02/17 12:12	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/02/17 12:12	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/02/17 12:12	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/02/17 12:12	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/02/17 12:12	
Acetone	ug/L	<0.64	20.0	0.64	03/02/17 12:12	
Acrolein	ug/L	<2.1	10.0	2.1	03/02/17 12:12	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/02/17 12:12	
Benzene	ug/L	<0.042	0.50	0.042	03/02/17 12:12	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/02/17 12:12	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/02/17 12:12	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/02/17 12:12	
Bromoform	ug/L	<0.11	4.0	0.11	03/02/17 12:12	
Bromomethane	ug/L	<0.20	4.0	0.20	03/02/17 12:12	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/02/17 12:12	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/02/17 12:12	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

METHOD BLANK: 2526617 Matrix: Water
Associated Lab Samples: 10380460001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/02/17 12:12	
Chloroethane	ug/L	<0.12	1.0	0.12	03/02/17 12:12	
Chloroform	ug/L	<0.21	1.0	0.21	03/02/17 12:12	
Chloromethane	ug/L	<0.080	4.0	0.080	03/02/17 12:12	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/02/17 12:12	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/02/17 12:12	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/02/17 12:12	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/02/17 12:12	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/02/17 12:12	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/02/17 12:12	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/02/17 12:12	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/02/17 12:12	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/02/17 12:12	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/02/17 12:12	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/02/17 12:12	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/02/17 12:12	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/02/17 12:12	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/02/17 12:12	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/02/17 12:12	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/02/17 12:12	
Naphthalene	ug/L	<0.064	4.0	0.064	03/02/17 12:12	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/02/17 12:12	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/02/17 12:12	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/02/17 12:12	MN
Styrene	ug/L	<0.056	4.0	0.056	03/02/17 12:12	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/02/17 12:12	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/02/17 12:12	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/02/17 12:12	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/02/17 12:12	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/02/17 12:12	
Toluene	ug/L	<0.059	0.50	0.059	03/02/17 12:12	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/02/17 12:12	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/02/17 12:12	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/02/17 12:12	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/02/17 12:12	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/02/17 12:12	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/02/17 12:12	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/02/17 12:12	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/02/17 12:12	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/02/17 12:12	
4-Bromofluorobenzene (S)	%	103	75-125		03/02/17 12:12	
Toluene-d8 (S)	%	104	75-125		03/02/17 12:12	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

LABORATORY CONTROL SAMPLE: 2526618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	98	75-125	
1,1,1-Trichloroethane	ug/L	20	21.2	106	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	67-131	
1,1,2-Trichloroethane	ug/L	20	20.6	103	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.8	94	75-125	
1,1-Dichloroethane	ug/L	20	22.7	114	74-125	
1,1-Dichloroethene	ug/L	20	20.1	101	74-125	
1,1-Dichloropropene	ug/L	20	21.1	106	74-125	
1,2,3-Trichlorobenzene	ug/L	20	18.3	92	63-131	
1,2,3-Trichloropropane	ug/L	20	20.5	102	73-125	
1,2,4-Trichlorobenzene	ug/L	20	16.9	85	66-126	
1,2,4-Trimethylbenzene	ug/L	20	17.6	88	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	42.9	86	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.5	102	75-125	
1,2-Dichlorobenzene	ug/L	20	18.6	93	75-125	
1,2-Dichloroethane	ug/L	20	19.4	97	75-125	
1,2-Dichloroethene (Total)	ug/L	40	41.2	103	75-125	
1,2-Dichloropropane	ug/L	20	21.2	106	75-125	
1,3,5-Trimethylbenzene	ug/L	20	18.5	92	73-127	
1,3-Dichlorobenzene	ug/L	20	18.8	94	75-125	
1,3-Dichloropropane	ug/L	20	20.8	104	69-125	
1,4-Dichlorobenzene	ug/L	20	18.5	93	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	318	79	70-130	
2,2,4-Trimethylpentane	ug/L	20	19.1	96	67-138	
2,2-Dichloropropane	ug/L	20	21.2	106	69-125	
2-Butanone (MEK)	ug/L	100	96.7	97	48-145	
2-Chlorotoluene	ug/L	20	19.6	98	74-125	
2-Hexanone	ug/L	100	106	106	63-135	
4-Chlorotoluene	ug/L	20	19.6	98	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	53-138	
Acetone	ug/L	100	116	116	70-142	
Acrolein	ug/L	200	161	81	44-150	
Acrylonitrile	ug/L	200	210	105	68-125	
Benzene	ug/L	20	20.2	101	65-125	
Bromobenzene	ug/L	20	19.5	98	75-125	
Bromochloromethane	ug/L	20	20.6	103	75-125	
Bromodichloromethane	ug/L	20	20.7	104	73-125	
Bromoform	ug/L	20	18.4	92	69-125	
Bromomethane	ug/L	20	17.5	87	40-136	
Carbon disulfide	ug/L	20	19.2	96	36-150	
Carbon tetrachloride	ug/L	20	20.2	101	70-125	
Chlorobenzene	ug/L	20	19.1	96	75-125	
Chloroethane	ug/L	20	23.6	118	67-141	
Chloroform	ug/L	20	19.5	97	75-125	
Chloromethane	ug/L	20	21.9	110	50-150	
cis-1,2-Dichloroethene	ug/L	20	20.5	102	75-125	
cis-1,3-Dichloropropene	ug/L	20	21.5	108	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

LABORATORY CONTROL SAMPLE: 2526618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	20.2	101	75-125	
Dibromomethane	ug/L	20	20.0	100	75-129	
Dichlorodifluoromethane	ug/L	20	20.0	100	59-135	
Dichlorofluoromethane	ug/L	20	20.8	104	74-130	
Diisopropyl ether	ug/L	20	20.7	103	71-125	
Ethyl-tert-butyl ether	ug/L	20	20.8	104	70-130	
Ethylbenzene	ug/L	20	19.3	97	75-125	
Hexachloro-1,3-butadiene	ug/L	20	18.5	92	72-126	
Isopropylbenzene (Cumene)	ug/L	20	17.1	85	71-136	
m&p-Xylene	ug/L	40	39.5	99	75-125	
Methyl-tert-butyl ether	ug/L	20	19.8	99	73-127	
Methylene Chloride	ug/L	20	20.5	103	68-128	
n-Butylbenzene	ug/L	20	17.7	88	70-126	
n-Propylbenzene	ug/L	20	19.0	95	67-131	
Naphthalene	ug/L	20	14.1	70	52-134	
o-Xylene	ug/L	20	17.8	89	75-125	
p-Isopropyltoluene	ug/L	20	17.9	89	74-125	
sec-Butylbenzene	ug/L	20	17.6	88	69-134	
Styrene	ug/L	20	18.4	92	75-125	
tert-Amylmethyl ether	ug/L	20	19.6	98	70-130	
tert-Butyl Alcohol	ug/L	200	175	87	66-128	
tert-Butylbenzene	ug/L	20	16.6	83	71-128	
Tetrachloroethene	ug/L	20	17.6	88	74-125	
Tetrahydrofuran	ug/L	200	194	97	64-142	
Toluene	ug/L	20	18.8	94	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.7	104	73-125	
trans-1,3-Dichloropropene	ug/L	20	21.2	106	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	49.7	99	54-133	
Trichloroethene	ug/L	20	20.5	102	75-125	
Trichlorofluoromethane	ug/L	20	19.8	99	75-126	
Vinyl acetate	ug/L	20	23.3	116	67-126	
Vinyl chloride	ug/L	20	22.8	114	72-125	
Xylene (Total)	ug/L	60	57.3	95	75-125	
1,2-Dichloroethane-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526619 2526620

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.9	19.1	94	96	75-127	1	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.7	21.0	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	20.0	19.4	100	97	70-131	3	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	19.4	19.5	97	97	75-128	0	30

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

Parameter	Units	10380464001		2526619		2526620		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.8	22.3	109	111	54-150	2	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	22.0	22.2	110	111	58-147	1	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	20.6	20.8	103	104	49-150	1	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	21.1	21.7	106	108	58-147	2	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	17.9	18.2	90	91	57-139	1	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.3	18.7	97	93	71-127	4	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	17.1	16.9	85	85	55-136	1	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.5	87	87	67-138	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	42.1	39.8	84	80	63-136	5	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	19.7	19.5	99	97	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.3	17.5	87	88	75-125	1	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.2	18.6	91	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	40.1	40.7	100	102	55-146	2	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.2	20.7	101	104	63-138	3	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.1	18.5	90	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.9	18.0	90	90	75-125	0	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	20.1	19.9	100	99	65-135	1	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.6	17.7	88	89	70-126	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	366	374	91	93	54-145	2	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	22.8	22.6	114	113	30-150	1	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	21.3	21.6	106	108	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	89.0	88.2	89	88	50-144	1	30		
2-Chlorotoluene	ug/L	<0.084	20	20	18.9	19.6	95	98	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	100	96.9	100	97	43-150	4	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.0	19.4	95	97	71-131	2	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	102	99.7	102	100	60-147	2	30		
Acetone	ug/L	<0.64	100	100	98.5	100	98	100	59-150	2	30		
Acrolein	ug/L	<2.1	200	200	261	261	131	131	30-150	0	30		
Acrylonitrile	ug/L	<0.49	200	200	195	198	97	99	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.5	19.9	98	100	61-138	2	30		
Bromobenzene	ug/L	<0.087	20	20	18.7	18.4	93	92	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	18.9	19.2	95	96	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.4	19.9	97	99	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	17.8	17.3	89	86	71-125	3	30		
Bromomethane	ug/L	<0.20	20	20	18.6	19.2	93	96	30-150	3	30		
Carbon disulfide	ug/L	<0.20	20	20	19.4	19.8	97	99	30-150	2	30		
Carbon tetrachloride	ug/L	<0.079	20	20	19.9	20.2	100	101	68-140	1	30		
Chlorobenzene	ug/L	<0.066	20	20	18.4	18.9	92	94	75-132	2	30		
Chloroethane	ug/L	<0.12	20	20	23.7	24.1	119	121	55-150	2	30		
Chloroform	ug/L	<0.21	20	20	18.2	18.4	91	92	64-139	1	30		
Chloromethane	ug/L	<0.080	20	20	22.1	22.3	111	111	73-150	1	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.5	19.9	97	99	62-138	2	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.7	19.1	94	96	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	19.0	19.2	95	96	74-125	1	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

Parameter	Units	2526619		2526620		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380464001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	<0.14	20	20	18.2	18.1	91	90	66-138	1	30	
Dichlorodifluoromethane	ug/L	<0.075	20	20	23.9	24.0	120	120	53-150	0	30	
Dichlorofluoromethane	ug/L	<0.054	20	20	21.1	21.3	105	106	58-150	1	30	
Diisopropyl ether	ug/L	<0.050	20	20	19.9	20.5	99	102	50-139	3	30	
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	19.7	20.1	99	101	30-140	2	30	
Ethylbenzene	ug/L	<0.075	20	20	18.6	19.1	93	96	66-141	3	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	20.7	19.8	103	99	63-139	5	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	16.7	17.4	83	87	65-146	4	30	
m&p-Xylene	ug/L	<0.11	40	40	38.7	38.5	97	96	72-142	0	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	18.8	19.8	94	99	63-134	5	30	
Methylene Chloride	ug/L	<0.097	20	20	19.3	19.8	97	99	49-143	3	30	
n-Butylbenzene	ug/L	<0.16	20	20	18.1	18.2	91	91	67-134	0	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.6	19.4	93	97	62-142	4	30	
Naphthalene	ug/L	<0.064	20	20	13.6	13.9	68	69	41-150	2	30	
o-Xylene	ug/L	<0.044	20	20	18.0	18.1	90	91	66-138	1	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	17.9	18.0	90	90	64-137	0	30	
sec-Butylbenzene	ug/L	<0.094	20	20	18.1	18.2	90	91	65-142	1	30	
Styrene	ug/L	<0.056	20	20	17.9	18.1	90	90	61-142	1	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	18.8	19.1	94	96	65-125	2	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	191	195	95	97	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.6	17.2	83	86	69-135	3	30	
Tetrachloroethene	ug/L	<0.13	20	20	17.9	17.9	89	90	62-142	0	30	
Tetrahydrofuran	ug/L	<1.5	200	200	198	196	99	98	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.5	18.7	92	94	66-132	2	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	20.6	20.8	103	104	48-150	1	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	20.5	20.5	102	103	65-130	0	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	48.6	48.7	97	97	31-150	0	30	
Trichloroethene	ug/L	<0.044	20	20	20.0	20.3	100	101	64-142	1	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	22.1	22.5	111	113	63-150	2	30	
Vinyl acetate	ug/L	<0.12	20	20	22.0	22.3	110	111	30-150	1	30	
Vinyl chloride	ug/L	<0.098	20	20	24.5	24.8	122	124	58-150	1	30	
Xylene (Total)	ug/L	<0.15	60	60	56.6	56.6	94	94	70-140	0	30	
1,2-Dichloroethane-d4 (S)	%						99	99	75-125			
4-Bromofluorobenzene (S)	%						103	102	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380460

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380460

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380460001	MW13S-GW-022817	EPA 8260B	462059		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: UPRR CHAM HILL **Project #:** _____

WO# : 10380460



Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____
Tracking Number: 7096 3372 1973

Optional: Proj.-Due-Date: _____ Proj.-Name: _____

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No
Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No
Thermometer Used: 151401163 151401164 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.6 **Cooler Temp Corrected (°C):** 0.7 **Biological Tissue Frozen?** Yes No N/A
Temp should be above freezing to 6°C **Correction Factor:** 1.1 **Date and Initials of Person Examining Contents:** Kh3-01-17

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: <input checked="" type="checkbox"/> Coliform, TOC/DOC, Oil and Grease, DRO/B015 (water) and Dioxin. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Per method, VOA pH is checked after analysis	
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:50</u>	Temp: <u>0.6</u>	Corrected Temp: <u>0.7</u>
Time: <u>12:00</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: _____

Date: 03/01/17

JENNI GROSS

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of field, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

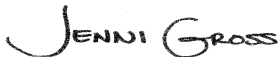
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):

E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380466001	MW13S-GW-022817	Water	02/28/17 09:00	03/01/17 11:15
10380466002	Marlow-GW-022817	Water	02/28/17 09:30	03/01/17 11:15
10380466003	Randall-GW-022817	Water	02/28/17 08:20	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380466001	MW13S-GW-022817	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
10380466002	Marlow-GW-022817	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
10380466003	Randall-GW-022817	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380466001	MW13S-GW-022817					
RSK 175	Methane	2.6J	ug/L	10.0	03/01/17 18:06	
6010C Met	Antimony, Dissolved	2.7J	ug/L	20.0	03/03/17 15:17	
6010C Met	Barium, Dissolved	7.0	ug/L	10.0	03/03/17 15:17	
6010C Met	Calcium, Dissolved	39200	ug/L	500	03/03/17 15:17	
6010C Met	Cobalt, Dissolved	0.83J	ug/L	10.0	03/03/17 15:17	
6010C Met	Lead, Dissolved	2.2J	ug/L	10.0	03/03/17 15:17	
6010C Met	Magnesium, Dissolved	11900	ug/L	500	03/03/17 15:17	
6010C Met	Manganese, Dissolved	46.2	ug/L	5.0	03/03/17 15:17	
6010C Met	Potassium, Dissolved	1330J	ug/L	2500	03/03/17 15:17	
6010C Met	Sodium, Dissolved	15500	ug/L	1000	03/03/17 15:17	
6010C Met	Thallium, Dissolved	6.4J	ug/L	20.0	03/03/17 15:17	
6010C Met	Vanadium, Dissolved	10.2J	ug/L	15.0	03/03/17 15:17	
6010C Met	Zinc, Dissolved	3.8J	ug/L	20.0	03/03/17 15:17	
SM 2320B	Alkalinity, Total as CaCO3	160	mg/L	5.0	03/02/17 12:45	
SM 2540C	Total Dissolved Solids	238	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	1.2J	mg/L	1.2	03/01/17 15:54	B
EPA 300.0	Nitrate as N	0.26	mg/L	0.10	03/01/17 15:54	
EPA 300.0	Sulfate	3.4	mg/L	1.2	03/01/17 15:54	
SM 5310C	Total Organic Carbon	0.55J	mg/L	1.0	03/04/17 01:29	
10380466002	Marlow-GW-022817					
RSK 175	Methane	1.4J	ug/L	10.0	03/01/17 18:28	
6010C Met	Antimony, Dissolved	3.5J	ug/L	20.0	03/03/17 15:36	
6010C Met	Barium, Dissolved	29.4	ug/L	10.0	03/03/17 15:36	
6010C Met	Calcium, Dissolved	48400	ug/L	500	03/03/17 15:36	
6010C Met	Cobalt, Dissolved	0.82J	ug/L	10.0	03/03/17 15:36	
6010C Met	Copper, Dissolved	7.6J	ug/L	10.0	03/03/17 15:36	
6010C Met	Iron, Dissolved	21.9J	ug/L	50.0	03/03/17 15:36	
6010C Met	Lead, Dissolved	2.9J	ug/L	10.0	03/03/17 15:36	
6010C Met	Magnesium, Dissolved	14000	ug/L	500	03/03/17 15:36	
6010C Met	Manganese, Dissolved	0.37J	ug/L	5.0	03/03/17 15:36	
6010C Met	Potassium, Dissolved	1240J	ug/L	2500	03/03/17 15:36	
6010C Met	Sodium, Dissolved	12800	ug/L	1000	03/03/17 15:36	
6010C Met	Thallium, Dissolved	6.6J	ug/L	20.0	03/03/17 15:36	
6010C Met	Vanadium, Dissolved	9.0J	ug/L	15.0	03/03/17 15:36	
6010C Met	Zinc, Dissolved	80.5	ug/L	20.0	03/03/17 15:36	
SM 2320B	Alkalinity, Total as CaCO3	147	mg/L	5.0	03/02/17 12:49	
SM 2540C	Total Dissolved Solids	288	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	12.2	mg/L	1.2	03/01/17 16:10	
EPA 300.0	Nitrate as N	3.4	mg/L	0.10	03/01/17 16:10	
EPA 300.0	Sulfate	11.2	mg/L	1.2	03/01/17 16:10	
SM 5310C	Total Organic Carbon	0.54J	mg/L	1.0	03/04/17 02:35	
10380466003	Randall-GW-022817					
RSK 175	Methane	1.9J	ug/L	10.0	03/01/17 18:42	
6010C Met	Barium, Dissolved	24.6	ug/L	10.0	03/03/17 15:40	
6010C Met	Calcium, Dissolved	46300	ug/L	500	03/03/17 15:40	
6010C Met	Cobalt, Dissolved	0.81J	ug/L	10.0	03/03/17 15:40	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380466003	Randall-GW-022817					
6010C Met	Copper, Dissolved	3.8J	ug/L	10.0	03/03/17 15:40	
6010C Met	Iron, Dissolved	83.9	ug/L	50.0	03/03/17 15:40	
6010C Met	Lead, Dissolved	2.4J	ug/L	10.0	03/03/17 15:40	
6010C Met	Magnesium, Dissolved	14400	ug/L	500	03/03/17 15:40	
6010C Met	Manganese, Dissolved	8.2	ug/L	5.0	03/03/17 15:40	
6010C Met	Potassium, Dissolved	1300J	ug/L	2500	03/03/17 15:40	
6010C Met	Sodium, Dissolved	14000	ug/L	1000	03/03/17 15:40	
6010C Met	Thallium, Dissolved	4.2J	ug/L	20.0	03/03/17 15:40	
6010C Met	Vanadium, Dissolved	5.2J	ug/L	15.0	03/03/17 15:40	
6010C Met	Zinc, Dissolved	209	ug/L	20.0	03/03/17 15:40	
SM 2320B	Alkalinity, Total as CaCO ₃	154	mg/L	5.0	03/02/17 12:53	
SM 2540C	Total Dissolved Solids	285	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	6.1	mg/L	1.2	03/01/17 16:25	
EPA 300.0	Nitrate as N	2.5	mg/L	0.10	03/01/17 16:25	
EPA 300.0	Sulfate	9.3	mg/L	1.2	03/01/17 16:25	
SM 5310C	Total Organic Carbon	0.38J	mg/L	1.0	03/04/17 02:48	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 75738

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2051086001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 319559)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 462054

B: Analyte was detected in the associated method blank.

- BLANK for HBN 462054 [WETA/302 (Lab ID: 2526594)
 - Chloride

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462054

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380409001,10380409002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2526596)
 - Chloride
 - Nitrate as N
 - Sulfate
- MS (Lab ID: 2526598)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2526597)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2526599)
 - Chloride
 - Nitrate as N
 - Sulfate

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Sample: MW13S-GW-022817 **Lab ID: 10380466001** Collected: 02/28/17 09:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 18:06	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 18:06	74-85-1	
Methane	2.6J	ug/L	10.0	0.49	1		03/01/17 18:06	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 15:17	7429-90-5	
Antimony, Dissolved	2.7J	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:17	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:17	7440-38-2	
Barium, Dissolved	70.0	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 15:17	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 15:17	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 15:17	7440-43-9	
Calcium, Dissolved	39200	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 15:17	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 15:17	7440-47-3	
Cobalt, Dissolved	0.83J	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 15:17	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 15:17	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 15:17	7439-89-6	
Lead, Dissolved	2.2J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 15:17	7439-92-1	
Magnesium, Dissolved	11900	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 15:17	7439-95-4	
Manganese, Dissolved	46.2	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 15:17	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 15:17	7440-02-0	
Potassium, Dissolved	1330J	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 15:17	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 15:17	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 15:17	7440-22-4	
Sodium, Dissolved	15500	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 15:17	7440-23-5	
Thallium, Dissolved	6.4J	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 15:17	7440-28-0	
Vanadium, Dissolved	10.2J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 15:17	7440-62-2	
Zinc, Dissolved	3.8J	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 15:17	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:06	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	160	mg/L	5.0	1.4	1		03/02/17 12:45		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	238	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:39	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.2J	mg/L	1.2	0.10	1		03/01/17 15:54	16887-00-6	B
Nitrate as N	0.26	mg/L	0.10	0.013	1		03/01/17 15:54	14797-55-8	
Sulfate	3.4	mg/L	1.2	0.16	1		03/01/17 15:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Sample: MW13S-GW-022817 **Lab ID: 10380466001** Collected: 02/28/17 09:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.55J	mg/L	1.0	0.20	1		03/04/17 01:29	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

Sample: Marlow-GW-022817 **Lab ID: 10380466002** Collected: 02/28/17 09:30 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 18:28	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 18:28	74-85-1	
Methane	1.4J	ug/L	10.0	0.49	1		03/01/17 18:28	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 15:36	7429-90-5	
Antimony, Dissolved	3.5J	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:36	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:36	7440-38-2	
Barium, Dissolved	29.4	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 15:36	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 15:36	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 15:36	7440-43-9	
Calcium, Dissolved	48400	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 15:36	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 15:36	7440-47-3	
Cobalt, Dissolved	0.82J	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 15:36	7440-48-4	
Copper, Dissolved	7.6J	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 15:36	7440-50-8	
Iron, Dissolved	21.9J	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 15:36	7439-89-6	
Lead, Dissolved	2.9J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 15:36	7439-92-1	
Magnesium, Dissolved	14000	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 15:36	7439-95-4	
Manganese, Dissolved	0.37J	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 15:36	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 15:36	7440-02-0	
Potassium, Dissolved	1240J	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 15:36	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 15:36	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 15:36	7440-22-4	
Sodium, Dissolved	12800	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 15:36	7440-23-5	
Thallium, Dissolved	6.6J	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 15:36	7440-28-0	
Vanadium, Dissolved	9.0J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 15:36	7440-62-2	
Zinc, Dissolved	80.5	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 15:36	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:08	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	147	mg/L	5.0	1.4	1		03/02/17 12:49		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	288	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:41	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	12.2	mg/L	1.2	0.10	1		03/01/17 16:10	16887-00-6	
Nitrate as N	3.4	mg/L	0.10	0.013	1		03/01/17 16:10	14797-55-8	
Sulfate	11.2	mg/L	1.2	0.16	1		03/01/17 16:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Sample: Marlow-GW-022817 **Lab ID: 10380466002** Collected: 02/28/17 09:30 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.54J	mg/L	1.0	0.20	1		03/04/17 02:35	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Sample: Randall-GW-022817 **Lab ID: 10380466003** Collected: 02/28/17 08:20 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 18:42	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 18:42	74-85-1	
Methane	1.9J	ug/L	10.0	0.49	1		03/01/17 18:42	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 15:40	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:40	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:40	7440-38-2	
Barium, Dissolved	24.6	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 15:40	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 15:40	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 15:40	7440-43-9	
Calcium, Dissolved	46300	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 15:40	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 15:40	7440-47-3	
Cobalt, Dissolved	0.81J	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 15:40	7440-48-4	
Copper, Dissolved	3.8J	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 15:40	7440-50-8	
Iron, Dissolved	83.9	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 15:40	7439-89-6	
Lead, Dissolved	2.4J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 15:40	7439-92-1	
Magnesium, Dissolved	14400	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 15:40	7439-95-4	
Manganese, Dissolved	8.2	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 15:40	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 15:40	7440-02-0	
Potassium, Dissolved	1300J	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 15:40	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 15:40	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 15:40	7440-22-4	
Sodium, Dissolved	14000	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 15:40	7440-23-5	
Thallium, Dissolved	4.2J	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 15:40	7440-28-0	
Vanadium, Dissolved	5.2J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 15:40	7440-62-2	
Zinc, Dissolved	209	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 15:40	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:10	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	154	mg/L	5.0	1.4	1		03/02/17 12:53		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	285	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:52	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	6.1	mg/L	1.2	0.10	1		03/01/17 16:25	16887-00-6	
Nitrate as N	2.5	mg/L	0.10	0.013	1		03/01/17 16:25	14797-55-8	
Sulfate	9.3	mg/L	1.2	0.16	1		03/01/17 16:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

Sample: Randall-GW-022817 **Lab ID: 10380466003** Collected: 02/28/17 08:20 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.38J	mg/L	1.0	0.20	1		03/04/17 02:48	7440-44-0	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

QC Batch: 462098 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 2526742 Matrix: Water
Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/01/17 16:55	
Ethene	ug/L	<0.77	10.0	0.77	03/01/17 16:55	
Methane	ug/L	2.1J	10.0	0.49	03/01/17 16:55	

LABORATORY CONTROL SAMPLE & LCSD: 2526743

Parameter	Units	2526744								
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	113	118	99	104	85-115	5	20	
Ethene	ug/L	106	105	110	99	104	85-115	5	20	
Methane	ug/L	60.7	60.0	62.9	99	104	85-115	5	20	

SAMPLE DUPLICATE: 2526745

Parameter	Units	60238467001		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	12.2	10.7	14	20	

SAMPLE DUPLICATE: 2526746

Parameter	Units	10380466002		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	1.4J	2.1J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

QC Batch: 462432

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 2528606

Matrix: Water

Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/03/17 13:01	

LABORATORY CONTROL SAMPLE: 2528607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528608 2528609

Parameter	Units	2528608		2528609		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10380467001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury, Dissolved	ug/L	<0.031	5	5	4.8	4.7	97	94	80-120	3	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

QC Batch: 462431 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 2528602 Matrix: Water
Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/03/17 15:09	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/03/17 15:09	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/03/17 15:09	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/03/17 15:09	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/03/17 15:09	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/03/17 15:09	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/03/17 15:09	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/03/17 15:09	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/03/17 15:09	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/03/17 15:09	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/03/17 15:09	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/03/17 15:09	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/03/17 15:09	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/03/17 15:09	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/03/17 15:09	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/03/17 15:09	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/03/17 15:09	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/03/17 15:09	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	03/03/17 15:09	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/03/17 15:09	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/03/17 15:09	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/03/17 15:09	

LABORATORY CONTROL SAMPLE: 2528603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	21600	108	80-120	
Antimony, Dissolved	ug/L	1000	1060	106	80-120	
Arsenic, Dissolved	ug/L	1000	1050	105	80-120	
Barium, Dissolved	ug/L	1000	1040	104	80-120	
Beryllium, Dissolved	ug/L	1000	1050	105	80-120	
Cadmium, Dissolved	ug/L	1000	1030	103	80-120	
Calcium, Dissolved	ug/L	20000	20000	100	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	1000	100	80-120	
Iron, Dissolved	ug/L	20000	20400	102	80-120	
Lead, Dissolved	ug/L	1000	1040	104	80-120	
Magnesium, Dissolved	ug/L	20000	20400	102	80-120	
Manganese, Dissolved	ug/L	1000	1030	103	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

LABORATORY CONTROL SAMPLE: 2528603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1030	103	80-120	
Potassium, Dissolved	ug/L	20000	19900	99	80-120	
Selenium, Dissolved	ug/L	1000	1080	108	80-120	
Silver, Dissolved	ug/L	500	506	101	80-120	
Sodium, Dissolved	ug/L	20000	20000	100	80-120	
Thallium, Dissolved	ug/L	1000	1030	103	80-120	
Vanadium, Dissolved	ug/L	1000	1000	100	80-120	
Zinc, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528604 2528605

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380466001 Result	Spike Conc.	Spike Conc.	MS Result							
Aluminum, Dissolved	ug/L	<13.5	20000	20000	21300	21800	107	109	75-125	2	20	
Antimony, Dissolved	ug/L	2.7J	1000	1000	1030	1050	103	104	75-125	2	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1030	1060	103	106	75-125	2	20	
Barium, Dissolved	ug/L	70.0	1000	1000	1080	1110	101	104	75-125	2	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1040	1060	104	106	75-125	2	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	1010	1030	101	103	75-125	2	20	
Calcium, Dissolved	ug/L	39200	20000	20000	58300	59100	96	99	75-125	1	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	1000	1020	100	102	75-125	2	20	
Cobalt, Dissolved	ug/L	0.83J	1000	1000	987	1000	99	100	75-125	2	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	989	1010	99	101	75-125	2	20	
Iron, Dissolved	ug/L	<18.0	20000	20000	20000	20300	100	102	75-125	2	20	
Lead, Dissolved	ug/L	2.2J	1000	1000	1000	1030	100	103	75-125	2	20	
Magnesium, Dissolved	ug/L	11900	20000	20000	31900	32400	100	103	75-125	2	20	
Manganese, Dissolved	ug/L	46.2	1000	1000	1050	1070	100	102	75-125	2	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	989	1010	99	101	75-125	2	20	
Potassium, Dissolved	ug/L	1330J	20000	20000	21300	21800	100	102	75-125	2	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1050	1070	105	107	75-125	2	20	
Silver, Dissolved	ug/L	<0.28	500	500	498	508	100	102	75-125	2	20	
Sodium, Dissolved	ug/L	15500	20000	20000	34800	35600	97	100	75-125	2	20	
Thallium, Dissolved	ug/L	6.4J	1000	1000	998	1020	99	101	75-125	2	20	
Vanadium, Dissolved	ug/L	10.2J	1000	1000	992	1010	98	100	75-125	2	20	
Zinc, Dissolved	ug/L	3.8J	1000	1000	1000	1010	100	101	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

QC Batch: 462170 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 2527076 Matrix: Water
Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	03/02/17 11:15	

LABORATORY CONTROL SAMPLE & LCSD: 2527077 2527078

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	39.2	39.2	98	98	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2527079 2527080

Parameter	Units	10379497009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	129	40	40	162	166	82	92	80-120	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2527081 2527082

Parameter	Units	10380124002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	268	40	40	303	312	86	109	80-120	3	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

QC Batch: 462565

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 2529406

Matrix: Water

Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	17.0	10.0	5.0	03/04/17 18:38	

LABORATORY CONTROL SAMPLE: 2529407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 2529408

Parameter	Units	10380466001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	238	249	5	10	

SAMPLE DUPLICATE: 2529409

Parameter	Units	10380356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	255	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

QC Batch: 75738 Analysis Method: SM 4500-S-2 D
 QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
 Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 319556 Matrix: Water

Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/03/17 16:30	

LABORATORY CONTROL SAMPLE: 319557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 319559

Parameter	Units	2051086001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.084	42	75-125	M1

SAMPLE DUPLICATE: 319558

Parameter	Units	2051086001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

QC Batch: 462054 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 2526594 Matrix: Water
Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.24J	1.2	0.10	03/01/17 15:16	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/01/17 15:16	
Sulfate	mg/L	<0.16	1.2	0.16	03/01/17 15:16	

LABORATORY CONTROL SAMPLE: 2526595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Nitrate as N	mg/L	1	0.92	92	90-110	
Sulfate	mg/L	12.5	11.5	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526596 2526597

Parameter	Units	10380409001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	18.9	12.5	12.5	28.4	28.6	77	78	90-110	0	20	M1
Nitrate as N	mg/L	1.0	1	1	1.8	1.8	80	82	90-110	1	20	M1
Sulfate	mg/L	12.4	12.5	12.5	22.9	23.1	84	85	90-110	1	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526598 2526599

Parameter	Units	10380409002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.9	12.5	12.5	36.9	37.0	72	73	90-110	0	20	M1
Nitrate as N	mg/L	0.98	1	1	1.9	1.9	88	89	90-110	0	20	M1
Sulfate	mg/L	26.2	12.5	12.5	35.7	35.7	76	76	90-110	0	20	M1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380466

QC Batch: 107392

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C TOC

Associated Lab Samples: 10380466001, 10380466002, 10380466003

METHOD BLANK: 425475

Matrix: Water

Associated Lab Samples: 10380466001, 10380466002, 10380466003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/03/17 23:30	

LABORATORY CONTROL SAMPLE: 425476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425477 425478

Parameter	Units	10379495001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec				
Total Organic Carbon	mg/L	4.0	25	25	29.6	29.8	102	103	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425479 425480

Parameter	Units	10380466001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Conc.	Result	Result	% Rec	% Rec				
Total Organic Carbon	mg/L	0.55J	25	25	26.3	26.5	103	104	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380466

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

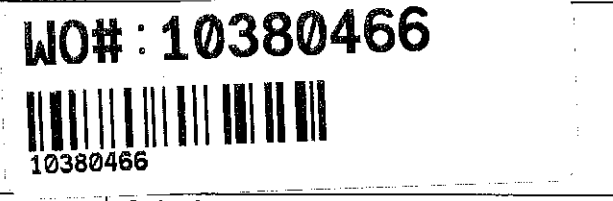
Pace Project No.: 10380466

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380466001	MW13S-GW-022817	RSK 175	462098		
10380466002	Marlow-GW-022817	RSK 175	462098		
10380466003	Randall-GW-022817	RSK 175	462098		
10380466001	MW13S-GW-022817	EPA 3010	462431	6010C Met	462456
10380466002	Marlow-GW-022817	EPA 3010	462431	6010C Met	462456
10380466003	Randall-GW-022817	EPA 3010	462431	6010C Met	462456
10380466001	MW13S-GW-022817	EPA 7470A	462432	EPA 7470A	462458
10380466002	Marlow-GW-022817	EPA 7470A	462432	EPA 7470A	462458
10380466003	Randall-GW-022817	EPA 7470A	462432	EPA 7470A	462458
10380466001	MW13S-GW-022817	SM 2320B	462170		
10380466002	Marlow-GW-022817	SM 2320B	462170		
10380466003	Randall-GW-022817	SM 2320B	462170		
10380466001	MW13S-GW-022817	SM 2540C	462565		
10380466002	Marlow-GW-022817	SM 2540C	462565		
10380466003	Randall-GW-022817	SM 2540C	462565		
10380466001	MW13S-GW-022817	SM 4500-S-2 D	75738		
10380466002	Marlow-GW-022817	SM 4500-S-2 D	75738		
10380466003	Randall-GW-022817	SM 4500-S-2 D	75738		
10380466001	MW13S-GW-022817	EPA 300.0	462054		
10380466002	Marlow-GW-022817	EPA 300.0	462054		
10380466003	Randall-GW-022817	EPA 300.0	462054		
10380466001	MW13S-GW-022817	SM 5310C	107392		
10380466002	Marlow-GW-022817	SM 5310C	107392		
10380466003	Randall-GW-022817	SM 5310C	107392		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs
 Client Name: CH2M HILL
 Project #: **WO# : 10380466**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 709633721973
 Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No
 Optional: Proj: Due Date: _____ Proj: Name: _____
 Packing Material: Bubble Wrap Bubble Bags None Other: _____
 Temp Blank? Yes No

Thermometer 151401163 151401164
 Type of Ice: Wet Blue None
 Samples on ice, cooling process has begun _____
 Cooler Temp Read (°C): 0.62.9
 Cooler Temp Corrected (°C): 0.72.9
 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C
 Correction Factor: 10.1
 Date and Initials of Person Examining Contents: KH3.01.17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	12.
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	Sample # <u>1-3 11, 11,</u>
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION
 Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>1155</u> Temp: <u>0.4, 2.8</u> Corrected Temp: <u>0.72.9</u>	
Time: <u>1215</u> put in cooler	
Time: _____ Temp: _____ Corrected Temp: _____	

Project Manager Review: JENNI GROSS
 Date: 03/01/17
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2051168



Workorder: 10380466

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/1/2017

Results Requested By: 3/6/2017

Requested Analysis

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers		Requested Analysis
						Other		
1	MW13S-GW-022817	PS	2/28/2017 09:00	10380466001	Water	1		
2	Marlow-GW-022817	PS	2/28/2017 09:30	10380466002	Water	1		
3	Randall-GW-022817	PS	2/28/2017 08:20	10380466003	Water	1		
4								
5								

5636267 / 4500 Sulfide

Comments

Transfers	Released By	Date/Time	Received By	Date/Time
1	<i>Chas... [Signature]</i>	Pace MN 3/2/17 930		
2	<i>Fred [Signature]</i>	3-3-17 6:20	<i>[Signature]</i>	3-3-17 1820
3				

Cooler Temperature on Receipt	4.0°C	Custody Seal	Y or N	Received on Ice	Y or N	Samples Intact	Y or N
-------------------------------	-------	--------------	--------	-----------------	--------	----------------	--------

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project

WO#: 2051168

PM: ADC

Due Date: 03/06/17

CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3-3-17

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Client Name: Pace MN

WO#: 1283628
 PM: CLJ Due Date: 03/08/17
 CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Other:
 Commercial Pace

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: Hard Pack Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.2 Cooler Temp Corrected °C: 2.5 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: JPC 3/2/17

Comments: Met 3-3-17

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Melissa Woods

Date: 3/6/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 08, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

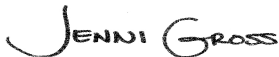
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA

Florida Department of Health (NELAC): E87595

Illinois Environmental Protection Agency: 0025721

Kansas Department of Health and Environment (NELAC):
E-10266

Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202

Texas Commission on Env. Quality (NELAC):

T104704405-09-TX

U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119

Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380467001	LANG-GW-022417	Water	02/24/17 08:30	03/01/17 11:15
10380467002	SILVA-GW-022417	Water	02/24/17 10:10	03/01/17 11:15
10380467003	LASHAW-GW-022417	Water	02/24/17 11:15	03/01/17 11:15
10380467004	REED-GW-022417	Water	02/24/17 12:10	03/01/17 11:15
10380467005	DAVEY-GE-022417	Water	02/24/17 13:15	03/01/17 11:15
10380467006	ASHER-GW-022417	Water	02/24/17 14:40	03/01/17 11:15
10380467007	Trip Blank	Water	02/24/17 07:00	03/01/17 11:15
10380467008	GWFD-01-022417	Water	02/24/17 10:15	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380467001	LANG-GW-022417	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10380467002	SILVA-GW-022417	SM 5310C	KRV	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
10380467003	LASHAW-GW-022417	EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
10380467004	REED-GW-022417	SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
10380467005	DAVEY-GE-022417	SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
SM 2320B	JFP	1	PASI-M		
SM 2540C	NAS	1	PASI-M		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380467006	ASHER-GW-022417	SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
10380467007	Trip Blank	SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V
		EPA 8260B	DJB	83	PASI-M
10380467008	GWFD-01-022417	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	KRV	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380467001	LANG-GW-022417					
RSK 175	Methane	4.3J	ug/L	10.0	03/01/17 17:16	
6010C Met	Barium, Dissolved	0.23J	ug/L	10.0	03/03/17 15:44	
6010C Met	Calcium, Dissolved	126J	ug/L	500	03/03/17 15:44	
6010C Met	Copper, Dissolved	10.8	ug/L	10.0	03/03/17 15:44	
6010C Met	Iron, Dissolved	49.3J	ug/L	50.0	03/03/17 15:44	
6010C Met	Magnesium, Dissolved	89.4J	ug/L	500	03/03/17 15:44	
6010C Met	Manganese, Dissolved	0.34J	ug/L	5.0	03/03/17 15:44	
6010C Met	Potassium, Dissolved	819J	ug/L	2500	03/03/17 15:44	
6010C Met	Sodium, Dissolved	91100	ug/L	1000	03/03/17 15:44	
6010C Met	Vanadium, Dissolved	3.8J	ug/L	15.0	03/03/17 15:44	
6010C Met	Zinc, Dissolved	6.4J	ug/L	20.0	03/03/17 15:44	
SM 2320B	Alkalinity, Total as CaCO3	179	mg/L	5.0	03/04/17 12:09	
SM 2540C	Total Dissolved Solids	242	mg/L	10.0	03/07/17 16:09	H1
EPA 300.0	Chloride	1.9	mg/L	1.2	03/01/17 20:01	B
EPA 300.0	Nitrate as N	0.43	mg/L	0.10	03/01/17 20:01	H3
EPA 300.0	Sulfate	2.1	mg/L	1.2	03/01/17 20:01	
SM 5310C	Total Organic Carbon	0.48J	mg/L	1.0	03/03/17 20:12	
10380467002	SILVA-GW-022417					
RSK 175	Methane	2.7J	ug/L	10.0	03/01/17 17:24	
6010C Met	Barium, Dissolved	0.28J	ug/L	10.0	03/03/17 15:56	
6010C Met	Calcium, Dissolved	54.5J	ug/L	500	03/03/17 15:56	
6010C Met	Copper, Dissolved	263	ug/L	10.0	03/03/17 15:56	
6010C Met	Lead, Dissolved	7.2J	ug/L	10.0	03/03/17 15:56	
6010C Met	Magnesium, Dissolved	1070	ug/L	500	03/03/17 15:56	
6010C Met	Manganese, Dissolved	6.4	ug/L	5.0	03/03/17 15:56	
6010C Met	Sodium, Dissolved	87800	ug/L	1000	03/03/17 15:56	
6010C Met	Vanadium, Dissolved	1.4J	ug/L	15.0	03/03/17 15:56	
6010C Met	Zinc, Dissolved	286	ug/L	20.0	03/03/17 15:56	
SM 2320B	Alkalinity, Total as CaCO3	149	mg/L	5.0	03/04/17 12:13	
SM 2540C	Total Dissolved Solids	243	mg/L	10.0	03/07/17 16:09	H1
EPA 300.0	Chloride	17.5	mg/L	1.2	03/01/17 20:16	
EPA 300.0	Nitrate as N	0.22	mg/L	0.10	03/01/17 20:16	H3
EPA 300.0	Sulfate	7.6	mg/L	1.2	03/01/17 20:16	
SM 5310C	Total Organic Carbon	0.66J	mg/L	1.0	03/03/17 20:51	
10380467003	LASHAW-GW-022417					
RSK 175	Methane	148	ug/L	10.0	03/01/17 17:31	
6010C Met	Barium, Dissolved	9.7J	ug/L	10.0	03/03/17 16:00	
6010C Met	Calcium, Dissolved	26800	ug/L	500	03/03/17 16:00	
6010C Met	Cobalt, Dissolved	0.64J	ug/L	10.0	03/03/17 16:00	
6010C Met	Copper, Dissolved	5.3J	ug/L	10.0	03/03/17 16:00	
6010C Met	Iron, Dissolved	217	ug/L	50.0	03/03/17 16:00	
6010C Met	Magnesium, Dissolved	13300	ug/L	500	03/03/17 16:00	
6010C Met	Manganese, Dissolved	0.98J	ug/L	5.0	03/03/17 16:00	
6010C Met	Potassium, Dissolved	3700	ug/L	2500	03/03/17 16:00	
6010C Met	Sodium, Dissolved	15600	ug/L	1000	03/03/17 16:00	
6010C Met	Thallium, Dissolved	5.8J	ug/L	20.0	03/03/17 16:00	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380467003	LASHAW-GW-022417					
6010C Met	Vanadium, Dissolved	10.9J	ug/L	15.0	03/03/17 16:00	
6010C Met	Zinc, Dissolved	232	ug/L	20.0	03/03/17 16:00	
SM 2320B	Alkalinity, Total as CaCO3	135	mg/L	5.0	03/04/17 13:06	
SM 2540C	Total Dissolved Solids	189	mg/L	10.0	03/07/17 16:09	H1
EPA 300.0	Chloride	1.6	mg/L	1.2	03/01/17 20:31	B
EPA 300.0	Nitrate as N	2.2	mg/L	0.10	03/01/17 20:31	H3
EPA 300.0	Sulfate	5.6	mg/L	1.2	03/01/17 20:31	
SM 5310C	Total Organic Carbon	0.94J	mg/L	1.0	03/03/17 21:31	
10380467004	REED-GW-022417					
RSK 175	Methane	2.9J	ug/L	10.0	03/01/17 17:38	
6010C Met	Barium, Dissolved	44.9	ug/L	10.0	03/03/17 16:04	
6010C Met	Calcium, Dissolved	27900	ug/L	500	03/03/17 16:04	
6010C Met	Copper, Dissolved	1.0J	ug/L	10.0	03/03/17 16:04	
6010C Met	Iron, Dissolved	93.8	ug/L	50.0	03/03/17 16:04	
6010C Met	Lead, Dissolved	2.4J	ug/L	10.0	03/03/17 16:04	
6010C Met	Magnesium, Dissolved	11000	ug/L	500	03/03/17 16:04	
6010C Met	Manganese, Dissolved	3.0J	ug/L	5.0	03/03/17 16:04	
6010C Met	Potassium, Dissolved	2940	ug/L	2500	03/03/17 16:04	
6010C Met	Sodium, Dissolved	13700	ug/L	1000	03/03/17 16:04	
6010C Met	Vanadium, Dissolved	23.1	ug/L	15.0	03/03/17 16:04	
6010C Met	Zinc, Dissolved	23.5	ug/L	20.0	03/03/17 16:04	
SM 2320B	Alkalinity, Total as CaCO3	129	mg/L	5.0	03/04/17 13:11	
SM 2540C	Total Dissolved Solids	185	mg/L	10.0	03/07/17 16:09	H1
EPA 300.0	Chloride	1.2	mg/L	1.2	03/01/17 20:46	B
EPA 300.0	Nitrate as N	0.23	mg/L	0.10	03/01/17 20:46	H3
EPA 300.0	Sulfate	6.4	mg/L	1.2	03/01/17 20:46	
SM 5310C	Total Organic Carbon	0.27J	mg/L	1.0	03/03/17 21:44	
10380467005	DAVEY-GE-022417					
RSK 175	Methane	1.4J	ug/L	10.0	03/01/17 17:45	
6010C Met	Aluminum, Dissolved	16.4J	ug/L	200	03/03/17 16:07	
6010C Met	Barium, Dissolved	48.3	ug/L	10.0	03/03/17 16:07	
6010C Met	Calcium, Dissolved	52000	ug/L	500	03/03/17 16:07	
6010C Met	Cobalt, Dissolved	0.79J	ug/L	10.0	03/03/17 16:07	
6010C Met	Copper, Dissolved	20.1	ug/L	10.0	03/03/17 16:07	
6010C Met	Iron, Dissolved	58.4	ug/L	50.0	03/03/17 16:07	
6010C Met	Lead, Dissolved	3.7J	ug/L	10.0	03/03/17 16:07	
6010C Met	Magnesium, Dissolved	15300	ug/L	500	03/03/17 16:07	
6010C Met	Manganese, Dissolved	2.3J	ug/L	5.0	03/03/17 16:07	
6010C Met	Potassium, Dissolved	973J	ug/L	2500	03/03/17 16:07	
6010C Met	Sodium, Dissolved	10600	ug/L	1000	03/03/17 16:07	
6010C Met	Thallium, Dissolved	4.2J	ug/L	20.0	03/03/17 16:07	
6010C Met	Vanadium, Dissolved	7.8J	ug/L	15.0	03/03/17 16:07	
6010C Met	Zinc, Dissolved	282	ug/L	20.0	03/03/17 16:07	
EPA 7470A	Mercury, Dissolved	0.040J	ug/L	0.20	03/03/17 13:28	
SM 2320B	Alkalinity, Total as CaCO3	154	mg/L	5.0	03/04/17 13:15	
SM 2540C	Total Dissolved Solids	253	mg/L	10.0	03/07/17 16:09	H1

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380467005	DAVEY-GE-022417					
EPA 300.0	Chloride	16.2	mg/L	1.2	03/01/17 21:02	
EPA 300.0	Nitrate as N	1.8	mg/L	0.10	03/01/17 21:02	H3
EPA 300.0	Sulfate	10.9	mg/L	1.2	03/01/17 21:02	
SM 5310C	Total Organic Carbon	0.56J	mg/L	1.0	03/03/17 21:57	
10380467006	ASHER-GW-022417					
RSK 175	Methane	2.2J	ug/L	10.0	03/01/17 17:52	
6010C Met	Aluminum, Dissolved	20.1J	ug/L	200	03/03/17 16:11	
6010C Met	Barium, Dissolved	102	ug/L	10.0	03/03/17 16:11	
6010C Met	Calcium, Dissolved	82800	ug/L	500	03/03/17 16:11	
6010C Met	Cobalt, Dissolved	0.58J	ug/L	10.0	03/03/17 16:11	
6010C Met	Copper, Dissolved	546	ug/L	10.0	03/03/17 16:11	
6010C Met	Iron, Dissolved	31.2J	ug/L	50.0	03/03/17 16:11	
6010C Met	Lead, Dissolved	2.5J	ug/L	10.0	03/03/17 16:11	
6010C Met	Magnesium, Dissolved	24100	ug/L	500	03/03/17 16:11	
6010C Met	Manganese, Dissolved	1.1J	ug/L	5.0	03/03/17 16:11	
6010C Met	Potassium, Dissolved	1330J	ug/L	2500	03/03/17 16:11	
6010C Met	Sodium, Dissolved	24900	ug/L	1000	03/03/17 16:11	
6010C Met	Vanadium, Dissolved	10.7J	ug/L	15.0	03/03/17 16:11	
6010C Met	Zinc, Dissolved	36.7	ug/L	20.0	03/03/17 16:11	
SM 2320B	Alkalinity, Total as CaCO3	230	mg/L	5.0	03/04/17 13:19	
SM 2540C	Total Dissolved Solids	425	mg/L	10.0	03/07/17 16:09	H1
EPA 300.0	Chloride	14.1	mg/L	1.2	03/01/17 21:17	
EPA 300.0	Nitrate as N	7.9	mg/L	0.10	03/01/17 21:17	H3
EPA 300.0	Sulfate	54.7	mg/L	1.2	03/01/17 21:17	
SM 5310C	Total Organic Carbon	1.6	mg/L	1.0	03/03/17 22:10	
10380467007	Trip Blank					
EPA 8260B	Methylene Chloride	0.38J	ug/L	4.0	03/03/17 03:27	
10380467008	GWFD-01-022417					
RSK 175	Methane	3.2J	ug/L	10.0	03/01/17 17:59	
6010C Met	Barium, Dissolved	0.37J	ug/L	10.0	03/03/17 16:15	
6010C Met	Calcium, Dissolved	64.4J	ug/L	500	03/03/17 16:15	
6010C Met	Copper, Dissolved	275	ug/L	10.0	03/03/17 16:15	
6010C Met	Iron, Dissolved	26.0J	ug/L	50.0	03/03/17 16:15	
6010C Met	Lead, Dissolved	8.1J	ug/L	10.0	03/03/17 16:15	
6010C Met	Magnesium, Dissolved	1290	ug/L	500	03/03/17 16:15	
6010C Met	Manganese, Dissolved	8.0	ug/L	5.0	03/03/17 16:15	
6010C Met	Sodium, Dissolved	87100	ug/L	1000	03/03/17 16:15	
6010C Met	Vanadium, Dissolved	1.4J	ug/L	15.0	03/03/17 16:15	
6010C Met	Zinc, Dissolved	301	ug/L	20.0	03/03/17 16:15	
SM 2320B	Alkalinity, Total as CaCO3	146	mg/L	5.0	03/04/17 13:24	
SM 2540C	Total Dissolved Solids	241	mg/L	10.0	03/07/17 16:09	H1
EPA 300.0	Chloride	17.6	mg/L	1.2	03/01/17 22:02	
EPA 300.0	Nitrate as N	0.22	mg/L	0.10	03/01/17 22:02	H3
EPA 300.0	Sulfate	7.6	mg/L	1.2	03/01/17 22:02	
SM 5310C	Total Organic Carbon	0.56J	mg/L	1.0	03/03/17 22:23	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Date: March 08, 2017

TDS re-analyzed past holding time due to failing LCS.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane
- Trip Blank (Lab ID: 10380467007)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 08, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462560

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380124009,10380356008

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2529337)
 - Alkalinity, Total as CaCO₃

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- ASHER-GW-022417 (Lab ID: 10380467006)
- DAVEY-GE-022417 (Lab ID: 10380467005)
- GWFD-01-022417 (Lab ID: 10380467008)
- LANG-GW-022417 (Lab ID: 10380467001)
- LASHAW-GW-022417 (Lab ID: 10380467003)
- REED-GW-022417 (Lab ID: 10380467004)
- SILVA-GW-022417 (Lab ID: 10380467002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 75738

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2051086001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 319559)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H3: Sample was received or analysis requested beyond the recognized method holding time.

- ASHER-GW-022417 (Lab ID: 10380467006)
- DAVEY-GE-022417 (Lab ID: 10380467005)
- GWFD-01-022417 (Lab ID: 10380467008)
- LANG-GW-022417 (Lab ID: 10380467001)
- LASHAW-GW-022417 (Lab ID: 10380467003)
- REED-GW-022417 (Lab ID: 10380467004)
- SILVA-GW-022417 (Lab ID: 10380467002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 462054

B: Analyte was detected in the associated method blank.

- BLANK for HBN 462054 [WETA/302 (Lab ID: 2526594)
 - Chloride

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462054

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380409001,10380409002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2526596)
 - Chloride
 - Nitrate as N
 - Sulfate
- MS (Lab ID: 2526598)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2526597)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2526599)

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 08, 2017

QC Batch: 462054

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380409001,10380409002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Chloride
- Nitrate as N
- Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 08, 2017

General Information:

7 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: LANG-GW-022417 **Lab ID: 10380467001** Collected: 02/24/17 08:30 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:16	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:16	74-85-1	
Methane	4.3J	ug/L	10.0	0.49	1		03/01/17 17:16	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 15:44	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:44	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:44	7440-38-2	
Barium, Dissolved	0.23J	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 15:44	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 15:44	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 15:44	7440-43-9	
Calcium, Dissolved	126J	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 15:44	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 15:44	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 15:44	7440-48-4	
Copper, Dissolved	10.8	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 15:44	7440-50-8	
Iron, Dissolved	49.3J	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 15:44	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 15:44	7439-92-1	
Magnesium, Dissolved	89.4J	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 15:44	7439-95-4	
Manganese, Dissolved	0.34J	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 15:44	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 15:44	7440-02-0	
Potassium, Dissolved	819J	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 15:44	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 15:44	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 15:44	7440-22-4	
Sodium, Dissolved	91100	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 15:44	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 15:44	7440-28-0	
Vanadium, Dissolved	3.8J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 15:44	7440-62-2	
Zinc, Dissolved	6.4J	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 15:44	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:12	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	179	mg/L	5.0	1.4	1		03/04/17 12:09		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	242	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:32	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.9	mg/L	1.2	0.10	1		03/01/17 20:01	16887-00-6	B
Nitrate as N	0.43	mg/L	0.10	0.013	1		03/01/17 20:01	14797-55-8	H3
Sulfate	2.1	mg/L	1.2	0.16	1		03/01/17 20:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: LANG-GW-022417 **Lab ID: 10380467001** Collected: 02/24/17 08:30 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.48J	mg/L	1.0	0.20	1		03/03/17 20:12	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: SILVA-GW-022417 **Lab ID: 10380467002** Collected: 02/24/17 10:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:24	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:24	74-85-1	
Methane	2.7J	ug/L	10.0	0.49	1		03/01/17 17:24	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 15:56	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:56	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 15:56	7440-38-2	
Barium, Dissolved	0.28J	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 15:56	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 15:56	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 15:56	7440-43-9	
Calcium, Dissolved	54.5J	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 15:56	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 15:56	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 15:56	7440-48-4	
Copper, Dissolved	263	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 15:56	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 15:56	7439-89-6	
Lead, Dissolved	7.2J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 15:56	7439-92-1	
Magnesium, Dissolved	1070	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 15:56	7439-95-4	
Manganese, Dissolved	6.4	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 15:56	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 15:56	7440-02-0	
Potassium, Dissolved	<26.1	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 15:56	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 15:56	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 15:56	7440-22-4	
Sodium, Dissolved	87800	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 15:56	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 15:56	7440-28-0	
Vanadium, Dissolved	1.4J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 15:56	7440-62-2	
Zinc, Dissolved	286	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 15:56	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:22	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	149	mg/L	5.0	1.4	1		03/04/17 12:13		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	243	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:32	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	17.5	mg/L	1.2	0.10	1		03/01/17 20:16	16887-00-6	
Nitrate as N	0.22	mg/L	0.10	0.013	1		03/01/17 20:16	14797-55-8	H3
Sulfate	7.6	mg/L	1.2	0.16	1		03/01/17 20:16	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: SILVA-GW-022417 **Lab ID: 10380467002** Collected: 02/24/17 10:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.66J	mg/L	1.0	0.20	1		03/03/17 20:51	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: LASHAW-GW-022417 **Lab ID: 10380467003** Collected: 02/24/17 11:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:31	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:31	74-85-1	
Methane	148	ug/L	10.0	0.49	1		03/01/17 17:31	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 16:00	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:00	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:00	7440-38-2	
Barium, Dissolved	9.7J	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 16:00	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 16:00	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 16:00	7440-43-9	
Calcium, Dissolved	26800	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 16:00	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 16:00	7440-47-3	
Cobalt, Dissolved	0.64J	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 16:00	7440-48-4	
Copper, Dissolved	5.3J	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 16:00	7440-50-8	
Iron, Dissolved	217	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 16:00	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 16:00	7439-92-1	
Magnesium, Dissolved	13300	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 16:00	7439-95-4	
Manganese, Dissolved	0.98J	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 16:00	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 16:00	7440-02-0	
Potassium, Dissolved	3700	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 16:00	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 16:00	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 16:00	7440-22-4	
Sodium, Dissolved	15600	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 16:00	7440-23-5	
Thallium, Dissolved	5.8J	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 16:00	7440-28-0	
Vanadium, Dissolved	10.9J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 16:00	7440-62-2	
Zinc, Dissolved	232	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 16:00	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:24	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	135	mg/L	5.0	1.4	1		03/04/17 13:06		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	189	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:33	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.6	mg/L	1.2	0.10	1		03/01/17 20:31	16887-00-6	B
Nitrate as N	2.2	mg/L	0.10	0.013	1		03/01/17 20:31	14797-55-8	H3
Sulfate	5.6	mg/L	1.2	0.16	1		03/01/17 20:31	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: LASHAW-GW-022417 **Lab ID: 10380467003** Collected: 02/24/17 11:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.94J	mg/L	1.0	0.20	1		03/03/17 21:31	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: REED-GW-022417 **Lab ID: 10380467004** Collected: 02/24/17 12:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:38	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:38	74-85-1	
Methane	2.9J	ug/L	10.0	0.49	1		03/01/17 17:38	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 16:04	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:04	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:04	7440-38-2	
Barium, Dissolved	44.9	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 16:04	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 16:04	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 16:04	7440-43-9	
Calcium, Dissolved	27900	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 16:04	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 16:04	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 16:04	7440-48-4	
Copper, Dissolved	1.0J	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 16:04	7440-50-8	
Iron, Dissolved	93.8	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 16:04	7439-89-6	
Lead, Dissolved	2.4J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 16:04	7439-92-1	
Magnesium, Dissolved	11000	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 16:04	7439-95-4	
Manganese, Dissolved	3.0J	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 16:04	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 16:04	7440-02-0	
Potassium, Dissolved	2940	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 16:04	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 16:04	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 16:04	7440-22-4	
Sodium, Dissolved	13700	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 16:04	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 16:04	7440-28-0	
Vanadium, Dissolved	23.1	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 16:04	7440-62-2	
Zinc, Dissolved	23.5	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 16:04	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:26	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	129	mg/L	5.0	1.4	1		03/04/17 13:11		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	185	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:35	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.2	mg/L	1.2	0.10	1		03/01/17 20:46	16887-00-6	B
Nitrate as N	0.23	mg/L	0.10	0.013	1		03/01/17 20:46	14797-55-8	H3
Sulfate	6.4	mg/L	1.2	0.16	1		03/01/17 20:46	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: REED-GW-022417 **Lab ID: 10380467004** Collected: 02/24/17 12:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.27J	mg/L	1.0	0.20	1		03/03/17 21:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Sample: DAVEY-GE-022417 **Lab ID: 10380467005** Collected: 02/24/17 13:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:45	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:45	74-85-1	
Methane	1.4J	ug/L	10.0	0.49	1		03/01/17 17:45	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	16.4J	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 16:07	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:07	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:07	7440-38-2	
Barium, Dissolved	48.3	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 16:07	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 16:07	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 16:07	7440-43-9	
Calcium, Dissolved	52000	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 16:07	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 16:07	7440-47-3	
Cobalt, Dissolved	0.79J	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 16:07	7440-48-4	
Copper, Dissolved	20.1	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 16:07	7440-50-8	
Iron, Dissolved	58.4	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 16:07	7439-89-6	
Lead, Dissolved	3.7J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 16:07	7439-92-1	
Magnesium, Dissolved	15300	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 16:07	7439-95-4	
Manganese, Dissolved	2.3J	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 16:07	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 16:07	7440-02-0	
Potassium, Dissolved	973J	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 16:07	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 16:07	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 16:07	7440-22-4	
Sodium, Dissolved	10600	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 16:07	7440-23-5	
Thallium, Dissolved	4.2J	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 16:07	7440-28-0	
Vanadium, Dissolved	7.8J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 16:07	7440-62-2	
Zinc, Dissolved	282	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 16:07	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	0.040J	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:28	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	154	mg/L	5.0	1.4	1		03/04/17 13:15		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	253	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:36	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	16.2	mg/L	1.2	0.10	1		03/01/17 21:02	16887-00-6	
Nitrate as N	1.8	mg/L	0.10	0.013	1		03/01/17 21:02	14797-55-8	H3
Sulfate	10.9	mg/L	1.2	0.16	1		03/01/17 21:02	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: DAVEY-GE-022417 **Lab ID: 10380467005** Collected: 02/24/17 13:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.56J	mg/L	1.0	0.20	1		03/03/17 21:57	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: ASHER-GW-022417 **Lab ID: 10380467006** Collected: 02/24/17 14:40 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:52	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:52	74-85-1	
Methane	2.2J	ug/L	10.0	0.49	1		03/01/17 17:52	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	20.1J	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 16:11	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:11	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:11	7440-38-2	
Barium, Dissolved	102	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 16:11	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 16:11	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 16:11	7440-43-9	
Calcium, Dissolved	82800	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 16:11	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 16:11	7440-47-3	
Cobalt, Dissolved	0.58J	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 16:11	7440-48-4	
Copper, Dissolved	546	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 16:11	7440-50-8	
Iron, Dissolved	31.2J	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 16:11	7439-89-6	
Lead, Dissolved	2.5J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 16:11	7439-92-1	
Magnesium, Dissolved	24100	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 16:11	7439-95-4	
Manganese, Dissolved	1.1J	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 16:11	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 16:11	7440-02-0	
Potassium, Dissolved	1330J	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 16:11	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 16:11	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 16:11	7440-22-4	
Sodium, Dissolved	24900	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 16:11	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 16:11	7440-28-0	
Vanadium, Dissolved	10.7J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 16:11	7440-62-2	
Zinc, Dissolved	36.7	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 16:11	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:30	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	230	mg/L	5.0	1.4	1		03/04/17 13:19		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	425	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:37	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	14.1	mg/L	1.2	0.10	1		03/01/17 21:17	16887-00-6	
Nitrate as N	7.9	mg/L	0.10	0.013	1		03/01/17 21:17	14797-55-8	H3
Sulfate	54.7	mg/L	1.2	0.16	1		03/01/17 21:17	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: ASHER-GW-022417 **Lab ID: 10380467006** Collected: 02/24/17 14:40 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.6	mg/L	1.0	0.20	1		03/03/17 22:10	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Sample: Trip Blank **Lab ID: 10380467007** Collected: 02/24/17 07:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 03:27	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 03:27	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:27	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 03:27	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 03:27	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:27	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 03:27	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 03:27	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 03:27	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 03:27	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 03:27	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 03:27	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 03:27	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 03:27	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 03:27	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 03:27	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 03:27	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 03:27	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 03:27	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 03:27	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 03:27	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 03:27	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 03:27	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 03:27	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 03:27	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 03:27	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 03:27	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 03:27	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 03:27	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 03:27	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 03:27	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 03:27	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 03:27	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 03:27	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 03:27	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 03:27	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 03:27	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 03:27	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 03:27	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 03:27	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 03:27	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 03:27	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 03:27	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 03:27	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 03:27	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 03:27	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: Trip Blank **Lab ID: 10380467007** Collected: 02/24/17 07:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 03:27	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 03:27	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 03:27	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 03:27	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 03:27	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 03:27	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 03:27	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 03:27	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 03:27	1634-04-4	
Methylene Chloride	0.38J	ug/L	4.0	0.097	1		03/03/17 03:27	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 03:27	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 03:27	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 03:27	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 03:27	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 03:27	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 03:27	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:27	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 03:27	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 03:27	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 03:27	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 03:27	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 03:27	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 03:27	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 03:27	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 03:27	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 03:27	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 03:27	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 03:27	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 03:27	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 03:27	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 03:27	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 03:27	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 03:27	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 03:27	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		03/03/17 03:27	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 03:27	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/03/17 03:27	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Sample: GWFD-01-022417 **Lab ID:** 10380467008 Collected: 02/24/17 10:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 17:59	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 17:59	74-85-1	
Methane	3.2J	ug/L	10.0	0.49	1		03/01/17 17:59	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 11:35	03/03/17 16:15	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:15	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 11:35	03/03/17 16:15	7440-38-2	
Barium, Dissolved	0.37J	ug/L	10.0	0.20	1	03/03/17 11:35	03/03/17 16:15	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 11:35	03/03/17 16:15	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 11:35	03/03/17 16:15	7440-43-9	
Calcium, Dissolved	64.4J	ug/L	500	15.8	1	03/03/17 11:35	03/03/17 16:15	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 11:35	03/03/17 16:15	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/03/17 11:35	03/03/17 16:15	7440-48-4	
Copper, Dissolved	275	ug/L	10.0	0.89	1	03/03/17 11:35	03/03/17 16:15	7440-50-8	
Iron, Dissolved	26.0J	ug/L	50.0	18.0	1	03/03/17 11:35	03/03/17 16:15	7439-89-6	
Lead, Dissolved	8.1J	ug/L	10.0	1.9	1	03/03/17 11:35	03/03/17 16:15	7439-92-1	
Magnesium, Dissolved	1290	ug/L	500	7.4	1	03/03/17 11:35	03/03/17 16:15	7439-95-4	
Manganese, Dissolved	8.0	ug/L	5.0	0.33	1	03/03/17 11:35	03/03/17 16:15	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 11:35	03/03/17 16:15	7440-02-0	
Potassium, Dissolved	<26.1	ug/L	2500	26.1	1	03/03/17 11:35	03/03/17 16:15	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 11:35	03/03/17 16:15	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 11:35	03/03/17 16:15	7440-22-4	
Sodium, Dissolved	87100	ug/L	1000	12.0	1	03/03/17 11:35	03/03/17 16:15	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 11:35	03/03/17 16:15	7440-28-0	
Vanadium, Dissolved	1.4J	ug/L	15.0	0.39	1	03/03/17 11:35	03/03/17 16:15	7440-62-2	
Zinc, Dissolved	301	ug/L	20.0	1.4	1	03/03/17 11:35	03/03/17 16:15	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 12:25	03/03/17 13:32	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	146	mg/L	5.0	1.4	1		03/04/17 13:24		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	241	mg/L	10.0	5.0	1		03/07/17 16:09		H1
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:38	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	17.6	mg/L	1.2	0.10	1		03/01/17 22:02	16887-00-6	
Nitrate as N	0.22	mg/L	0.10	0.013	1		03/01/17 22:02	14797-55-8	H3
Sulfate	7.6	mg/L	1.2	0.16	1		03/01/17 22:02	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Sample: GWFD-01-022417 **Lab ID: 10380467008** Collected: 02/24/17 10:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.56J	mg/L	1.0	0.20	1		03/03/17 22:23	7440-44-0	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

QC Batch: 462098 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

METHOD BLANK: 2526742 Matrix: Water
 Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/01/17 16:55	
Ethene	ug/L	<0.77	10.0	0.77	03/01/17 16:55	
Methane	ug/L	2.1J	10.0	0.49	03/01/17 16:55	

LABORATORY CONTROL SAMPLE & LCSD: 2526743 2526744

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	113	118	99	104	85-115	5	20	
Ethene	ug/L	106	105	110	99	104	85-115	5	20	
Methane	ug/L	60.7	60.0	62.9	99	104	85-115	5	20	

SAMPLE DUPLICATE: 2526745

Parameter	Units	60238467001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	12.2	10.7	14	20	

SAMPLE DUPLICATE: 2526746

Parameter	Units	10380466002 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	1.4J	2.1J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

QC Batch: 462432 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470A Mercury Water Dissolved
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

METHOD BLANK: 2528606 Matrix: Water
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/03/17 13:01	

LABORATORY CONTROL SAMPLE: 2528607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528608 2528609

Parameter	Units	10380467001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.031	5	5	4.8	4.7	97	94	80-120	3	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

QC Batch: 462431 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

METHOD BLANK: 2528602 Matrix: Water
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/03/17 15:09	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/03/17 15:09	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/03/17 15:09	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/03/17 15:09	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/03/17 15:09	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/03/17 15:09	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/03/17 15:09	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/03/17 15:09	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/03/17 15:09	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/03/17 15:09	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/03/17 15:09	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/03/17 15:09	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/03/17 15:09	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/03/17 15:09	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/03/17 15:09	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/03/17 15:09	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/03/17 15:09	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/03/17 15:09	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	03/03/17 15:09	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/03/17 15:09	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/03/17 15:09	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/03/17 15:09	

LABORATORY CONTROL SAMPLE: 2528603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	21600	108	80-120	
Antimony, Dissolved	ug/L	1000	1060	106	80-120	
Arsenic, Dissolved	ug/L	1000	1050	105	80-120	
Barium, Dissolved	ug/L	1000	1040	104	80-120	
Beryllium, Dissolved	ug/L	1000	1050	105	80-120	
Cadmium, Dissolved	ug/L	1000	1030	103	80-120	
Calcium, Dissolved	ug/L	20000	20000	100	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	1000	100	80-120	
Iron, Dissolved	ug/L	20000	20400	102	80-120	
Lead, Dissolved	ug/L	1000	1040	104	80-120	
Magnesium, Dissolved	ug/L	20000	20400	102	80-120	
Manganese, Dissolved	ug/L	1000	1030	103	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

LABORATORY CONTROL SAMPLE: 2528603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1030	103	80-120	
Potassium, Dissolved	ug/L	20000	19900	99	80-120	
Selenium, Dissolved	ug/L	1000	1080	108	80-120	
Silver, Dissolved	ug/L	500	506	101	80-120	
Sodium, Dissolved	ug/L	20000	20000	100	80-120	
Thallium, Dissolved	ug/L	1000	1030	103	80-120	
Vanadium, Dissolved	ug/L	1000	1000	100	80-120	
Zinc, Dissolved	ug/L	1000	1030	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528604 2528605

Parameter	Units	MS 10380466001		MSD 2528605		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		Result	Spike Conc.	Spike Conc.	Result							
Aluminum, Dissolved	ug/L	<13.5	20000	20000	21300	21800	107	109	75-125	2	20	
Antimony, Dissolved	ug/L	2.7J	1000	1000	1030	1050	103	104	75-125	2	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1030	1060	103	106	75-125	2	20	
Barium, Dissolved	ug/L	70.0	1000	1000	1080	1110	101	104	75-125	2	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1040	1060	104	106	75-125	2	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	1010	1030	101	103	75-125	2	20	
Calcium, Dissolved	ug/L	39200	20000	20000	58300	59100	96	99	75-125	1	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	1000	1020	100	102	75-125	2	20	
Cobalt, Dissolved	ug/L	0.83J	1000	1000	987	1000	99	100	75-125	2	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	989	1010	99	101	75-125	2	20	
Iron, Dissolved	ug/L	<18.0	20000	20000	20000	20300	100	102	75-125	2	20	
Lead, Dissolved	ug/L	2.2J	1000	1000	1000	1030	100	103	75-125	2	20	
Magnesium, Dissolved	ug/L	11900	20000	20000	31900	32400	100	103	75-125	2	20	
Manganese, Dissolved	ug/L	46.2	1000	1000	1050	1070	100	102	75-125	2	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	989	1010	99	101	75-125	2	20	
Potassium, Dissolved	ug/L	1330J	20000	20000	21300	21800	100	102	75-125	2	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1050	1070	105	107	75-125	2	20	
Silver, Dissolved	ug/L	<0.28	500	500	498	508	100	102	75-125	2	20	
Sodium, Dissolved	ug/L	15500	20000	20000	34800	35600	97	100	75-125	2	20	
Thallium, Dissolved	ug/L	6.4J	1000	1000	998	1020	99	101	75-125	2	20	
Vanadium, Dissolved	ug/L	10.2J	1000	1000	992	1010	98	100	75-125	2	20	
Zinc, Dissolved	ug/L	3.8J	1000	1000	1000	1010	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380467007

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380467007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

METHOD BLANK: 2527140

Matrix: Water

Associated Lab Samples: 10380467007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

QC Batch: 462560 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

METHOD BLANK: 2529334 Matrix: Water
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	03/04/17 11:31	

LABORATORY CONTROL SAMPLE & LCSD: 2529335 2529336

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	38.5	38.6	96	96	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529337 2529338

Parameter	Units	10380124009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	212	40	40	264	255	129	108	80-120	3	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529339 2529340

Parameter	Units	10380356008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	97.6	40	40	134	136	91	96	80-120	2	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

QC Batch: 75738

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

METHOD BLANK: 319556

Matrix: Water

Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/03/17 16:30	

LABORATORY CONTROL SAMPLE: 319557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 319559

Parameter	Units	2051086001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.084	42	75-125	M1

SAMPLE DUPLICATE: 319558

Parameter	Units	2051086001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

QC Batch:	462054	Analysis Method:	EPA 300.0
QC Batch Method:	EPA 300.0	Analysis Description:	300.0 IC Anions
Associated Lab Samples:	10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008		

METHOD BLANK:	2526594	Matrix:	Water
Associated Lab Samples:	10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.24J	1.2	0.10	03/01/17 15:16	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/01/17 15:16	
Sulfate	mg/L	<0.16	1.2	0.16	03/01/17 15:16	

LABORATORY CONTROL SAMPLE: 2526595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Nitrate as N	mg/L	1	0.92	92	90-110	
Sulfate	mg/L	12.5	11.5	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526596 2526597

Parameter	Units	10380409001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	18.9	12.5	12.5	28.4	28.6	77	78	90-110	0	20	M1
Nitrate as N	mg/L	1.0	1	1	1.8	1.8	80	82	90-110	1	20	M1
Sulfate	mg/L	12.4	12.5	12.5	22.9	23.1	84	85	90-110	1	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526598 2526599

Parameter	Units	10380409002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	27.9	12.5	12.5	36.9	37.0	72	73	90-110	0	20	M1
Nitrate as N	mg/L	0.98	1	1	1.9	1.9	88	89	90-110	0	20	M1
Sulfate	mg/L	26.2	12.5	12.5	35.7	35.7	76	76	90-110	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

QC Batch: 107393 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

METHOD BLANK: 425481 Matrix: Water
Associated Lab Samples: 10380467001, 10380467002, 10380467003, 10380467004, 10380467005, 10380467006, 10380467008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/03/17 18:13	

LABORATORY CONTROL SAMPLE: 425482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425483 425484

Parameter	Units	1283663001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	19.4	50	50	71.1	71.0	103	103	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425485 425486

Parameter	Units	10380467002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	0.66J	25	25	26.3	26.6	103	104	80-120	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

WORKORDER QUALIFIERS

WO: 10380467
[1] TDS re-analyzed past holding time due to failing LCS.

BATCH QUALIFIERS

Batch: 462187
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.
CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
H1 Analysis conducted outside the recognized method holding time.
H3 Sample was received or analysis requested beyond the recognized method holding time.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380467

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380467001	LANG-GW-022417	RSK 175	462098		
10380467002	SILVA-GW-022417	RSK 175	462098		
10380467003	LASHAW-GW-022417	RSK 175	462098		
10380467004	REED-GW-022417	RSK 175	462098		
10380467005	DAVEY-GE-022417	RSK 175	462098		
10380467006	ASHER-GW-022417	RSK 175	462098		
10380467008	GWFD-01-022417	RSK 175	462098		
10380467001	LANG-GW-022417	EPA 3010	462431	6010C Met	462456
10380467002	SILVA-GW-022417	EPA 3010	462431	6010C Met	462456
10380467003	LASHAW-GW-022417	EPA 3010	462431	6010C Met	462456
10380467004	REED-GW-022417	EPA 3010	462431	6010C Met	462456
10380467005	DAVEY-GE-022417	EPA 3010	462431	6010C Met	462456
10380467006	ASHER-GW-022417	EPA 3010	462431	6010C Met	462456
10380467008	GWFD-01-022417	EPA 3010	462431	6010C Met	462456
10380467001	LANG-GW-022417	EPA 7470A	462432	EPA 7470A	462458
10380467002	SILVA-GW-022417	EPA 7470A	462432	EPA 7470A	462458
10380467003	LASHAW-GW-022417	EPA 7470A	462432	EPA 7470A	462458
10380467004	REED-GW-022417	EPA 7470A	462432	EPA 7470A	462458
10380467005	DAVEY-GE-022417	EPA 7470A	462432	EPA 7470A	462458
10380467006	ASHER-GW-022417	EPA 7470A	462432	EPA 7470A	462458
10380467008	GWFD-01-022417	EPA 7470A	462432	EPA 7470A	462458
10380467007	Trip Blank	EPA 8260B	462187		
10380467001	LANG-GW-022417	SM 2320B	462560		
10380467002	SILVA-GW-022417	SM 2320B	462560		
10380467003	LASHAW-GW-022417	SM 2320B	462560		
10380467004	REED-GW-022417	SM 2320B	462560		
10380467005	DAVEY-GE-022417	SM 2320B	462560		
10380467006	ASHER-GW-022417	SM 2320B	462560		
10380467008	GWFD-01-022417	SM 2320B	462560		
10380467001	LANG-GW-022417	SM 2540C	462391		
10380467002	SILVA-GW-022417	SM 2540C	462391		
10380467003	LASHAW-GW-022417	SM 2540C	462391		
10380467004	REED-GW-022417	SM 2540C	462391		
10380467005	DAVEY-GE-022417	SM 2540C	462391		
10380467006	ASHER-GW-022417	SM 2540C	462391		
10380467008	GWFD-01-022417	SM 2540C	462391		
10380467001	LANG-GW-022417	SM 4500-S-2 D	75738		
10380467002	SILVA-GW-022417	SM 4500-S-2 D	75738		
10380467003	LASHAW-GW-022417	SM 4500-S-2 D	75738		
10380467004	REED-GW-022417	SM 4500-S-2 D	75738		
10380467005	DAVEY-GE-022417	SM 4500-S-2 D	75738		
10380467006	ASHER-GW-022417	SM 4500-S-2 D	75738		
10380467008	GWFD-01-022417	SM 4500-S-2 D	75738		
10380467001	LANG-GW-022417	EPA 300.0	462054		
10380467002	SILVA-GW-022417	EPA 300.0	462054		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE


Project: 1497 UPRR_Freeman

Pace Project No.: 10380467

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380467003	LASHAW-GW-022417	EPA 300.0	462054		
10380467004	REED-GW-022417	EPA 300.0	462054		
10380467005	DAVEY-GE-022417	EPA 300.0	462054		
10380467006	ASHER-GW-022417	EPA 300.0	462054		
10380467008	GWFD-01-022417	EPA 300.0	462054		
10380467001	LANG-GW-022417	SM 5310C	107393		
10380467002	SILVA-GW-022417	SM 5310C	107393		
10380467003	LASHAW-GW-022417	SM 5310C	107393		
10380467004	REED-GW-022417	SM 5310C	107393		
10380467005	DAVEY-GE-022417	SM 5310C	107393		
10380467006	ASHER-GW-022417	SM 5310C	107393		
10380467008	GWFD-01-022417	SM 5310C	107393		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs	Client Name: CH2M Hill	Project #: WO# : 10380467
	Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Other: _____ Tracking Number: 7096 3372 1940, 1930	 10380467

Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material: <input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Thermometer Used: <input checked="" type="checkbox"/> 151401163 <input type="checkbox"/> 151401164	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun
Cooler Temp Read (°C): 1.4, 5.9	Cooler Temp Corrected (°C): 1.560
Temp should be above freezing to 6°C	Correction Factor: 70.1
Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Date and Initials of Person Examining Contents: KAC 2-17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Nitrates out of hold
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. No MSMSD
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: WT	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample #
(HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: <input checked="" type="checkbox"/> VOA, Coliform, <input checked="" type="checkbox"/> DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. 2 trip blanks
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): 110912	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: Lindsey Date/Time: 02/28/17

Comments/Resolution: Ok to proceed with nitrate past holding time. FedEx delay on cooler.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: 11:52	Temp: 1.4, 5.9	Corrected Temp: 1.560
Time: 12:15	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 03/01/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2051163



2051163

Workorder: 10380467

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/1/2017

Results Requested By: 3/15/2017

Report To		Subcontract To				Requested Analysis										LAB USE ONLY	
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333				5636267 / 4300 Sulfide											
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix											Other	

Transfers					Comments									
Released By	Date/Time	Received By	Date/Time											
<i>Anna Asp</i>	Pace MN 3/2/17 930	<i>[Signature]</i>	3-3-17 0820											

Cooler Temperature on Receipt 4.0 °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon I
Proc.

WO#: 2051163
PM: ADC Due Date: 03/15/17
CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3-3-17 [Signature]

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Chain of Custody

WO#: 1283625

PM: CLJ

Due Date: 03/15/17

CLIENT: PACE MPLS

Page 62 of 63

Workorder: 10380467

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/1/2017

Results Requested By: 3/15/2017

Report To		Subcontract To					Requested Analysis										LAB USE ONLY												
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426		Pace Analytical Virginia MN 315 Chestnut Street Virginia, MN 55792 Phone (218)742-1042					5632354 / 5310.TOC																						
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	H2SO4																							
1	LANG-GW-022417	PS	2/24/2017 08:30	10380467001	Water	3																							001
2	SILVA-GW-022417	PS	2/24/2017 10:10	10380467002	Water	3																							002
3	LASHAW-GW-022417	PS	2/24/2017 11:15	10380467003	Water	3																							003
4	REED-GW-022417	PS	2/24/2017 12:10	10380467004	Water	3																							004
5	DAVEY-GE-022417	PS	2/24/2017 13:15	10380467005	Water	3																							005
6	ASHER-GW-022417	PS	2/24/2017 14:40	10380467006	Water	3																							006
7	GWFD-01-022417	PS	2/24/2017 10:15	10380467008	Water	3													007										

Transfers					Comments				
Released By	Date/Time	Received By	Date/Time						
<i>[Signature]</i> Pace MN	3/2/17 930	<i>[Signature]</i>	3/2/17 1812						
<i>[Signature]</i>	3/2/17 2174	<i>[Signature]</i>	3-3-17 0845						

Cooler Temperature on Receipt 2.5°C Custody Seal or N Received on Ice or N Samples Intact or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.



Sample Condition Upon Receipt

Client Name: Pace - MN

WO#: 1283625
PM: CLJ Due Date: 03/15/17
CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other:

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: Hand Packed

Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.2 Cooler Temp Corrected °C: 2.5 Biological Tissue Frozen? Yes No NA
Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: JPC 3/2/17

Comments: MT 3-3-17

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: [Signature] Date: 3/6/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

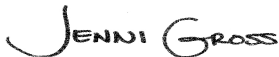
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380471001	LANG-GW-022417	Water	02/24/17 08:30	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380471001	LANG-GW-022417	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380471001	LANG-GW-022417					
EPA 8260B	Methylene Chloride	1.7J	ug/L	4.0	03/03/17 04:11	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LANG-GW-022417 (Lab ID: 10380471001)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Sample: LANG-GW-022417 Lab ID: 10380471001 Collected: 02/24/17 08:30 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 04:11	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 04:11	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 04:11	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 04:11	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 04:11	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 04:11	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 04:11	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 04:11	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 04:11	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 04:11	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 04:11	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 04:11	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 04:11	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 04:11	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 04:11	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 04:11	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 04:11	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 04:11	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 04:11	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 04:11	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 04:11	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 04:11	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 04:11	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 04:11	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 04:11	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 04:11	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 04:11	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 04:11	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 04:11	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 04:11	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 04:11	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 04:11	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 04:11	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 04:11	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 04:11	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 04:11	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 04:11	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 04:11	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 04:11	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 04:11	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 04:11	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 04:11	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 04:11	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 04:11	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 04:11	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 04:11	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Sample: LANG-GW-022417 **Lab ID: 10380471001** Collected: 02/24/17 08:30 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 04:11	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 04:11	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 04:11	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 04:11	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 04:11	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 04:11	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 04:11	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 04:11	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 04:11	1634-04-4	
Methylene Chloride	1.7J	ug/L	4.0	0.097	1		03/03/17 04:11	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 04:11	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 04:11	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 04:11	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 04:11	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 04:11	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 04:11	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 04:11	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 04:11	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 04:11	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 04:11	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 04:11	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 04:11	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 04:11	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 04:11	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 04:11	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 04:11	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 04:11	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 04:11	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 04:11	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 04:11	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 04:11	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 04:11	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 04:11	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 04:11	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/03/17 04:11	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/03/17 04:11	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 04:11	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380471001

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380471001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380471001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380471

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380471

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380471001	LANG-GW-022417	EPA 8260B	462187		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: **CH2M Hill**

Project #: **WO# : 10380471**



10380471

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other:

Tracking Number: **7096 3372 1940, 1930**

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): **1.4, 5.9** Cooler Temp Corrected (°C): **1.5, 6.0** Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: **70.1** Date and Initials of Person Examining Contents: **KG 3/2/17**

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. 2 trip blanks shared with 10380467
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): 110912		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: 11:55	Temp: 1.4, 5.9	Corrected Temp: 1.5, 6.0
Time: 12:05	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review:

JENNI GROSS

Date: **03/02/17**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

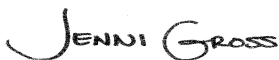
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380472001	SILVA-GW-022417	Water	02/24/17 10:10	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380472001	SILVA-GW-022417	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane
- SILVA-GW-022417 (Lab ID: 10380472001)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Sample: **SILVA-GW-022417** Lab ID: **10380472001** Collected: 02/24/17 10:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 04:33	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 04:33	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 04:33	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 04:33	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 04:33	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 04:33	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 04:33	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 04:33	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 04:33	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 04:33	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 04:33	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 04:33	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 04:33	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 04:33	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 04:33	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 04:33	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 04:33	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 04:33	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 04:33	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 04:33	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 04:33	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 04:33	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 04:33	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 04:33	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 04:33	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 04:33	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 04:33	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 04:33	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 04:33	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 04:33	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 04:33	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 04:33	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 04:33	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 04:33	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 04:33	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 04:33	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 04:33	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 04:33	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 04:33	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 04:33	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 04:33	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 04:33	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 04:33	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 04:33	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 04:33	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 04:33	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Sample: SILVA-GW-022417 **Lab ID: 10380472001** Collected: 02/24/17 10:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 04:33	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 04:33	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 04:33	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 04:33	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 04:33	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 04:33	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 04:33	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 04:33	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 04:33	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 04:33	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 04:33	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 04:33	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 04:33	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 04:33	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 04:33	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 04:33	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 04:33	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 04:33	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 04:33	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 04:33	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 04:33	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 04:33	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 04:33	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 04:33	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 04:33	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 04:33	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 04:33	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 04:33	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 04:33	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 04:33	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 04:33	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 04:33	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 04:33	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 04:33	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/03/17 04:33	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 04:33	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/03/17 04:33	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380472001

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380472001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380472001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380472

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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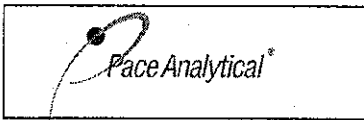
QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380472

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380472001	SILVA-GW-022417	EPA 8260B	462187		

REPORT OF LABORATORY ANALYSIS

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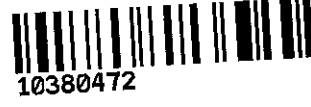
Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.22

Document Revised: 21Dec2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

Sample Condition
 Upon Receipt - ESI
 Tech Specs

Client Name: CH2M Hill Project #: _____

WO#: **10380472**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 7096 3372 1940, 1930

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 14.59 Cooler Temp Corrected (°C): 15.60 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 70.1 Date and Initials of Person Examining Contents: RGB/2/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>2 trip blanks shared with 10380467</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:55</u>	Temp: <u>14.59</u>	Corrected Temp: <u>15.60</u>
Time: <u>12:05</u>	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review: JENNI GROSS Date: 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380473

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380473001	LASHAW-GW-022417	Water	02/24/17 11:15	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380473001	LASHAW-GW-022417	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380473001	LASHAW-GW-022417					
EPA 8260B	Carbon tetrachloride	0.68	ug/L	0.50	03/03/17 05:18	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380473

Method: EPA 8260B
Description: 8260B MSV Low Level
Client: UPRR_CH2M Hill
Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LASHAW-GW-022417 (Lab ID: 10380473001)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Sample: LASHAW-GW-022417 Lab ID: 10380473001 Collected: 02/24/17 11:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 05:18	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 05:18	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 05:18	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 05:18	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 05:18	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 05:18	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 05:18	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 05:18	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 05:18	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 05:18	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 05:18	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 05:18	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 05:18	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 05:18	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 05:18	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 05:18	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 05:18	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 05:18	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 05:18	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 05:18	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 05:18	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 05:18	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 05:18	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 05:18	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 05:18	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 05:18	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 05:18	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 05:18	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 05:18	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 05:18	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 05:18	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 05:18	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 05:18	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 05:18	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 05:18	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 05:18	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 05:18	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 05:18	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 05:18	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 05:18	75-15-0	
Carbon tetrachloride	0.68	ug/L	0.50	0.079	1		03/03/17 05:18	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 05:18	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 05:18	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 05:18	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 05:18	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 05:18	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Sample: LASHAW-GW-022417 Lab ID: 10380473001 Collected: 02/24/17 11:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 05:18	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 05:18	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 05:18	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 05:18	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 05:18	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 05:18	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 05:18	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 05:18	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 05:18	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 05:18	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 05:18	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 05:18	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 05:18	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 05:18	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 05:18	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 05:18	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 05:18	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 05:18	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 05:18	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 05:18	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 05:18	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 05:18	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 05:18	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 05:18	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 05:18	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 05:18	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 05:18	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 05:18	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 05:18	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 05:18	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 05:18	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 05:18	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 05:18	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 05:18	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/03/17 05:18	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 05:18	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/03/17 05:18	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380473

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380473001

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380473001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380473

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380473001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

MATRIX SPIKE SAMPLE: 2527143

Parameter	Units	10380471001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380473

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380473

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380473001	LASHAW-GW-022417	EPA 8260B	462187		

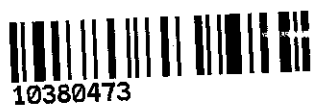
REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill

Project #: **WO# : 10380473**



Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other:

Tracking Number: 7096 3372 1940, 1930

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer Used: 151401163 151401164 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 14.59 **Cooler Temp Corrected (°C):** 15.60 **Biological Tissue Frozen?** Yes No N/A
 Temp should be above freezing to 6°C **Correction Factor:** 40.1 **Date and Initials of Person Examining Contents:** RGB/2/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
(HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exception: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	
Per method, VOA pH is checked after analysis <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>2 trip blanks stored with 10380467</u>
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:55</u>	Temp: <u>14.59</u>	Corrected Temp: <u>15.60</u>
Time: <u>12:05</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS **Date:** 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

March 13, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

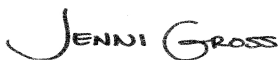
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380474001	MW9D-GW-022717	Water	02/27/17 11:20	03/01/17 11:15
10380474002	MW14D-GW-022717	Water	02/27/17 09:25	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380474001	MW9D-GW-022717	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10380474002	MW14D-GW-022717	SM 5310C	KRV	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
	EPA 300.0	KEO	3	PASI-M	
	SM 5310C	KRV	1	PASI-V	

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380474001	MW9D-GW-022717					
RSK 175	Methane	2.1J	ug/L	10.0	03/01/17 18:49	
6010C Met	Barium, Dissolved	33.9	ug/L	10.0	03/03/17 13:55	
6010C Met	Calcium, Dissolved	56500	ug/L	500	03/03/17 13:55	
6010C Met	Chromium, Dissolved	2.5J	ug/L	10.0	03/03/17 13:55	
6010C Met	Copper, Dissolved	1.5J	ug/L	10.0	03/03/17 13:55	
6010C Met	Iron, Dissolved	30.5J	ug/L	50.0	03/03/17 13:55	
6010C Met	Magnesium, Dissolved	16000	ug/L	500	03/03/17 13:55	
6010C Met	Manganese, Dissolved	31.7	ug/L	5.0	03/03/17 13:55	
6010C Met	Potassium, Dissolved	2540	ug/L	2500	03/03/17 13:55	
6010C Met	Sodium, Dissolved	18700	ug/L	1000	03/03/17 13:55	
6010C Met	Vanadium, Dissolved	4.6J	ug/L	15.0	03/03/17 13:55	
6010C Met	Zinc, Dissolved	4.2J	ug/L	20.0	03/03/17 13:55	
SM 2320B	Alkalinity, Total as CaCO3	153	mg/L	5.0	03/11/17 11:54	
SM 2540C	Total Dissolved Solids	341	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	14.7	mg/L	1.2	03/01/17 22:17	
EPA 300.0	Nitrate as N	4.2	mg/L	0.10	03/01/17 22:17	H1
EPA 300.0	Sulfate	34.2	mg/L	1.2	03/01/17 22:17	
SM 5310C	Total Organic Carbon	0.95J	mg/L	1.0	03/03/17 22:37	
10380474002	MW14D-GW-022717					
RSK 175	Methane	1.7J	ug/L	10.0	03/01/17 18:57	
6010C Met	Aluminum, Dissolved	133J	ug/L	200	03/03/17 14:14	
6010C Met	Barium, Dissolved	22.8	ug/L	10.0	03/03/17 14:14	
6010C Met	Calcium, Dissolved	31100	ug/L	500	03/03/17 14:14	
6010C Met	Cobalt, Dissolved	0.86J	ug/L	10.0	03/03/17 14:14	
6010C Met	Copper, Dissolved	0.89J	ug/L	10.0	03/03/17 14:14	
6010C Met	Iron, Dissolved	92.0	ug/L	50.0	03/03/17 14:14	
6010C Met	Magnesium, Dissolved	9740	ug/L	500	03/03/17 14:14	
6010C Met	Manganese, Dissolved	326	ug/L	5.0	03/03/17 14:14	
6010C Met	Potassium, Dissolved	624J	ug/L	2500	03/03/17 14:14	
6010C Met	Sodium, Dissolved	19400	ug/L	1000	03/03/17 14:14	
6010C Met	Vanadium, Dissolved	4.1J	ug/L	15.0	03/03/17 14:14	
6010C Met	Zinc, Dissolved	5.3J	ug/L	20.0	03/03/17 14:14	
SM 2320B	Alkalinity, Total as CaCO3	127	mg/L	5.0	03/11/17 12:27	
SM 2540C	Total Dissolved Solids	225	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	1.9	mg/L	1.2	03/01/17 22:32	B
EPA 300.0	Sulfate	10.0	mg/L	1.2	03/01/17 22:32	
SM 5310C	Total Organic Carbon	1.9	mg/L	1.0	03/03/17 22:50	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 75738

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2051086001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 319559)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- MW9D-GW-022717 (Lab ID: 10380474001)

H3: Sample was received or analysis requested beyond the recognized method holding time.

- MW14D-GW-022717 (Lab ID: 10380474002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 462054

B: Analyte was detected in the associated method blank.

- BLANK for HBN 462054 [WETA/302 (Lab ID: 2526594)
- Chloride

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462054

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380409001,10380409002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2526596)
 - Chloride
 - Nitrate as N
 - Sulfate
- MS (Lab ID: 2526598)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2526597)
 - Chloride
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2526599)
 - Chloride
 - Nitrate as N
 - Sulfate

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 13, 2017

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 13, 2017

General Information:

2 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

Sample: MW9D-GW-022717 **Lab ID: 10380474001** Collected: 02/27/17 11:20 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 18:49	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 18:49	74-85-1	
Methane	2.1J	ug/L	10.0	0.49	1		03/01/17 18:49	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/02/17 10:44	03/03/17 13:55	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/02/17 10:44	03/03/17 13:55	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/02/17 10:44	03/03/17 13:55	7440-38-2	
Barium, Dissolved	33.9	ug/L	10.0	0.20	1	03/02/17 10:44	03/03/17 13:55	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/02/17 10:44	03/03/17 13:55	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/02/17 10:44	03/03/17 13:55	7440-43-9	
Calcium, Dissolved	56500	ug/L	500	15.8	1	03/02/17 10:44	03/03/17 13:55	7440-70-2	
Chromium, Dissolved	2.5J	ug/L	10.0	2.0	1	03/02/17 10:44	03/03/17 13:55	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/02/17 10:44	03/03/17 13:55	7440-48-4	
Copper, Dissolved	1.5J	ug/L	10.0	0.89	1	03/02/17 10:44	03/03/17 13:55	7440-50-8	
Iron, Dissolved	30.5J	ug/L	50.0	18.0	1	03/02/17 10:44	03/03/17 13:55	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/02/17 10:44	03/03/17 13:55	7439-92-1	
Magnesium, Dissolved	16000	ug/L	500	7.4	1	03/02/17 10:44	03/03/17 13:55	7439-95-4	
Manganese, Dissolved	31.7	ug/L	5.0	0.33	1	03/02/17 10:44	03/03/17 13:55	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/02/17 10:44	03/03/17 13:55	7440-02-0	
Potassium, Dissolved	2540	ug/L	2500	26.1	1	03/02/17 10:44	03/03/17 13:55	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/02/17 10:44	03/03/17 13:55	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/02/17 10:44	03/03/17 13:55	7440-22-4	
Sodium, Dissolved	18700	ug/L	1000	12.0	1	03/02/17 10:44	03/03/17 13:55	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/02/17 10:44	03/03/17 13:55	7440-28-0	
Vanadium, Dissolved	4.6J	ug/L	15.0	0.39	1	03/02/17 10:44	03/03/17 13:55	7440-62-2	
Zinc, Dissolved	4.2J	ug/L	20.0	1.4	1	03/02/17 10:44	03/03/17 13:55	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 15:13	03/08/17 14:27	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	153	mg/L	5.0	1.4	1		03/11/17 11:54		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	341	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:52	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	14.7	mg/L	1.2	0.10	1		03/01/17 22:17	16887-00-6	
Nitrate as N	4.2	mg/L	0.10	0.013	1		03/01/17 22:17	14797-55-8	H1
Sulfate	34.2	mg/L	1.2	0.16	1		03/01/17 22:17	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Sample: MW9D-GW-022717 **Lab ID: 10380474001** Collected: 02/27/17 11:20 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.95J	mg/L	1.0	0.20	1		03/03/17 22:37	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Sample: MW14D-GW-022717 **Lab ID: 10380474002** Collected: 02/27/17 09:25 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/01/17 18:57	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/01/17 18:57	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		03/01/17 18:57	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	133J	ug/L	200	13.5	1	03/02/17 10:44	03/03/17 14:14	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/02/17 10:44	03/03/17 14:14	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/02/17 10:44	03/03/17 14:14	7440-38-2	
Barium, Dissolved	22.8	ug/L	10.0	0.20	1	03/02/17 10:44	03/03/17 14:14	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/02/17 10:44	03/03/17 14:14	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/02/17 10:44	03/03/17 14:14	7440-43-9	
Calcium, Dissolved	31100	ug/L	500	15.8	1	03/02/17 10:44	03/03/17 14:14	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/02/17 10:44	03/03/17 14:14	7440-47-3	
Cobalt, Dissolved	0.86J	ug/L	10.0	0.51	1	03/02/17 10:44	03/03/17 14:14	7440-48-4	
Copper, Dissolved	0.89J	ug/L	10.0	0.89	1	03/02/17 10:44	03/03/17 14:14	7440-50-8	
Iron, Dissolved	92.0	ug/L	50.0	18.0	1	03/02/17 10:44	03/03/17 14:14	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/02/17 10:44	03/03/17 14:14	7439-92-1	
Magnesium, Dissolved	9740	ug/L	500	7.4	1	03/02/17 10:44	03/03/17 14:14	7439-95-4	
Manganese, Dissolved	326	ug/L	5.0	0.33	1	03/02/17 10:44	03/03/17 14:14	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/02/17 10:44	03/03/17 14:14	7440-02-0	
Potassium, Dissolved	624J	ug/L	2500	26.1	1	03/02/17 10:44	03/03/17 14:14	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/02/17 10:44	03/03/17 14:14	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/02/17 10:44	03/03/17 14:14	7440-22-4	
Sodium, Dissolved	19400	ug/L	1000	12.0	1	03/02/17 10:44	03/03/17 14:14	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/02/17 10:44	03/03/17 14:14	7440-28-0	
Vanadium, Dissolved	4.1J	ug/L	15.0	0.39	1	03/02/17 10:44	03/03/17 14:14	7440-62-2	
Zinc, Dissolved	5.3J	ug/L	20.0	1.4	1	03/02/17 10:44	03/03/17 14:14	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/02/17 15:13	03/08/17 14:29	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	127	mg/L	5.0	1.4	1		03/11/17 12:27		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	225	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:53	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.9	mg/L	1.2	0.10	1		03/01/17 22:32	16887-00-6	B
Nitrate as N	<0.013	mg/L	0.10	0.013	1		03/01/17 22:32	14797-55-8	H3
Sulfate	10.0	mg/L	1.2	0.16	1		03/01/17 22:32	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Sample: MW14D-GW-022717 **Lab ID: 10380474002** Collected: 02/27/17 09:25 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.9	mg/L	1.0	0.20	1		03/03/17 22:50	7440-44-0	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

QC Batch: 462137 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470A Mercury Water Dissolved
Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 2526963 Matrix: Water
Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/08/17 14:17	

LABORATORY CONTROL SAMPLE: 2526964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526965 2526966

Parameter	Units	10380715001		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
Mercury, Dissolved	ug/L	ND		5	5	5.4	4.9	108	98	80-120	10	20			

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

QC Batch: 462129 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 2526931 Matrix: Water
Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/03/17 13:47	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/03/17 13:47	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/03/17 13:47	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/03/17 13:47	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/03/17 13:47	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/03/17 13:47	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/03/17 13:47	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/03/17 13:47	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/03/17 13:47	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/03/17 13:47	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/03/17 13:47	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/03/17 13:47	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/03/17 13:47	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/03/17 13:47	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/03/17 13:47	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/03/17 13:47	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/03/17 13:47	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/03/17 13:47	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	03/03/17 13:47	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/03/17 13:47	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/03/17 13:47	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/03/17 13:47	

LABORATORY CONTROL SAMPLE: 2526932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20300	101	80-120	
Antimony, Dissolved	ug/L	1000	1020	102	80-120	
Arsenic, Dissolved	ug/L	1000	1050	105	80-120	
Barium, Dissolved	ug/L	1000	1030	103	80-120	
Beryllium, Dissolved	ug/L	1000	1040	104	80-120	
Cadmium, Dissolved	ug/L	1000	1040	104	80-120	
Calcium, Dissolved	ug/L	20000	20200	101	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	999	100	80-120	
Iron, Dissolved	ug/L	20000	20500	102	80-120	
Lead, Dissolved	ug/L	1000	1020	102	80-120	
Magnesium, Dissolved	ug/L	20000	20800	104	80-120	
Manganese, Dissolved	ug/L	1000	1030	103	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

LABORATORY CONTROL SAMPLE: 2526932

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1030	103	80-120	
Potassium, Dissolved	ug/L	20000	20000	100	80-120	
Selenium, Dissolved	ug/L	1000	1020	102	80-120	
Silver, Dissolved	ug/L	500	503	101	80-120	
Sodium, Dissolved	ug/L	20000	19900	99	80-120	
Thallium, Dissolved	ug/L	1000	1020	102	80-120	
Vanadium, Dissolved	ug/L	1000	1010	101	80-120	
Zinc, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526933 2526934

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380474001 Result	Spike Conc.	Spike Conc.	MS Result							
Aluminum, Dissolved	ug/L	<13.5	20000	20000	20500	20300	102	102	75-125	1	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	1020	1020	102	102	75-125	0	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1070	1050	107	105	75-125	2	20	
Barium, Dissolved	ug/L	33.9	1000	1000	1060	1050	102	102	75-125	0	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1040	1040	104	104	75-125	0	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	1040	1040	104	104	75-125	0	20	
Calcium, Dissolved	ug/L	56500	20000	20000	76300	76900	99	102	75-125	1	20	
Chromium, Dissolved	ug/L	2.5J	1000	1000	1010	1010	101	101	75-125	0	20	
Cobalt, Dissolved	ug/L	<0.51	1000	1000	1010	1010	101	101	75-125	0	20	
Copper, Dissolved	ug/L	1.5J	1000	1000	1010	1000	100	100	75-125	0	20	
Iron, Dissolved	ug/L	30.5J	20000	20000	20500	20300	102	102	75-125	1	20	
Lead, Dissolved	ug/L	<1.9	1000	1000	1010	1010	101	101	75-125	0	20	
Magnesium, Dissolved	ug/L	16000	20000	20000	36500	36500	103	103	75-125	0	20	
Manganese, Dissolved	ug/L	31.7	1000	1000	1060	1060	103	103	75-125	0	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	1020	1020	102	101	75-125	0	20	
Potassium, Dissolved	ug/L	2540	20000	20000	23800	23800	106	106	75-125	0	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1030	1020	103	102	75-125	2	20	
Silver, Dissolved	ug/L	<0.28	500	500	508	505	102	101	75-125	1	20	
Sodium, Dissolved	ug/L	18700	20000	20000	39900	40200	106	107	75-125	1	20	
Thallium, Dissolved	ug/L	<3.8	1000	1000	998	997	100	100	75-125	0	20	
Vanadium, Dissolved	ug/L	4.6J	1000	1000	1020	1010	101	100	75-125	1	20	
Zinc, Dissolved	ug/L	4.2J	1000	1000	1010	1000	100	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

QC Batch: 463569 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 2534756 Matrix: Water
Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	03/11/17 11:13	

LABORATORY CONTROL SAMPLE & LCSD: 2534757 2534758

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	38.7	38.6	97	96	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534759 2534760

Parameter	Units	10380530003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	100	40	40	141	138	103	93	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534761 2534762

Parameter	Units	10380679006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	128	40	40	165	166	92	93	80-120	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

QC Batch: 462565

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 2529406

Matrix: Water

Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	17.0	10.0	5.0	03/04/17 18:38	

LABORATORY CONTROL SAMPLE: 2529407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 2529408

Parameter	Units	10380466001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	238	249	5	10	

SAMPLE DUPLICATE: 2529409

Parameter	Units	10380356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	255	0	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

QC Batch: 75738 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 319556 Matrix: Water
Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/03/17 16:30	

LABORATORY CONTROL SAMPLE: 319557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 319559

Parameter	Units	2051086001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.084	42	75-125	M1

SAMPLE DUPLICATE: 319558

Parameter	Units	2051086001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

QC Batch: 462054 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 2526594 Matrix: Water
Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.24J	1.2	0.10	03/01/17 15:16	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/01/17 15:16	
Sulfate	mg/L	<0.16	1.2	0.16	03/01/17 15:16	

LABORATORY CONTROL SAMPLE: 2526595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Nitrate as N	mg/L	1	0.92	92	90-110	
Sulfate	mg/L	12.5	11.5	92	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526596 2526597

Parameter	Units	10380409001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	18.9	12.5	12.5	28.4	28.6	77	78	90-110	0	20	M1	
Nitrate as N	mg/L	1.0	1	1	1.8	1.8	80	82	90-110	1	20	M1	
Sulfate	mg/L	12.4	12.5	12.5	22.9	23.1	84	85	90-110	1	20	M1	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526598 2526599

Parameter	Units	10380409002		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	Spike Conc.	Result	MSD Result	% Rec	MSD % Rec					
Chloride	mg/L	27.9	12.5	12.5	36.9	37.0	72	73	90-110	0	20	M1	
Nitrate as N	mg/L	0.98	1	1	1.9	1.9	88	89	90-110	0	20	M1	
Sulfate	mg/L	26.2	12.5	12.5	35.7	35.7	76	76	90-110	0	20	M1	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

QC Batch: 107393 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380474001, 10380474002

METHOD BLANK: 425481 Matrix: Water
Associated Lab Samples: 10380474001, 10380474002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/03/17 18:13	

LABORATORY CONTROL SAMPLE: 425482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.4	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425483 425484

Parameter	Units	1283663001		425484		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Total Organic Carbon	mg/L	19.4	50	50	71.1	71.0	103	103	80-120	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425485 425486

Parameter	Units	10380467002		425486		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Total Organic Carbon	mg/L	0.66J	25	25	26.3	26.6	103	104	80-120	1	20		

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380474

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

H1 Analysis conducted outside the recognized method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380474001	MW9D-GW-022717	RSK 175	462098		
10380474002	MW14D-GW-022717	RSK 175	462098		
10380474001	MW9D-GW-022717	EPA 3010	462129	6010C Met	462252
10380474002	MW14D-GW-022717	EPA 3010	462129	6010C Met	462252
10380474001	MW9D-GW-022717	EPA 7470A	462137	EPA 7470A	462326
10380474002	MW14D-GW-022717	EPA 7470A	462137	EPA 7470A	462326
10380474001	MW9D-GW-022717	SM 2320B	463569		
10380474002	MW14D-GW-022717	SM 2320B	463569		
10380474001	MW9D-GW-022717	SM 2540C	462565		
10380474002	MW14D-GW-022717	SM 2540C	462565		
10380474001	MW9D-GW-022717	SM 4500-S-2 D	75738		
10380474002	MW14D-GW-022717	SM 4500-S-2 D	75738		
10380474001	MW9D-GW-022717	EPA 300.0	462054		
10380474002	MW14D-GW-022717	EPA 300.0	462054		
10380474001	MW9D-GW-022717	SM 5310C	107393		
10380474002	MW14D-GW-022717	SM 5310C	107393		

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Sample Condition Upon Receipt Form - ESI

Document Revised: 21Dec2016
Page 1 of 2

Document No.:
F-MN-L-210-rev.22

Issuing Authority:
Pace Minnesota Quality Office

Sample Condition
Upon Receipt -- ESI
Tech Specs

Client Name:

Project #:

UPPER CHAM HILL

WO#: **10380474**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
Tracking Number: 7096 3372 1951

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.6 Cooler Temp Corrected (°C): 0.7 Biological Tissue Frozen? Yes No N/A
Temp should be above freezing to 6°C Correction Factor: 10.1 Date and Initials of Person Examining Contents: KL 3-01-17

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		8. <u>NO MS/MSD</u>
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10.
Filtered Volume Received for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>BC</u>	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12.
-Includes Date/Time/ID/Analysis Matrix:	<u>WT</u>		
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased):	<u>110912</u>	<u>3/1/17</u>	<u>3/1/17</u>

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: Lindsey & Steve

Date/Time: 03/01/17

Comments/Resolution: BOD volume not received for -001.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>12:20</u> Temp: <u>0.6</u>	Corrected Temp: <u>0.7</u>
Time: <u>12:40</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS

Date: 03/01/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2051167



Workorder: 10380474

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/1/2017

Results Requested By: 3/15/2017

Report To		Subcontract To				Requested Analysis																		
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333																						
						5636267 / Sulfide 4500																		
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Other	Preserved Containers					LAB USE ONLY												
1	MW9D-GW-022717	PS	2/27/2017 11:20	10380474001	Water	1																		
2	MW14D-GW-022717	PS	2/27/2017 09:25	10380474002	Water	1																		
3																								
4																								
5																								

Transfers					Comments											
Released By	Date/Time	Received By	Date/Time													
Page MN	3/2/17 900															
<i>7th of 3-3-17 0820 milk / Pac 3-3-17 820</i>																
Cooler Temperature on Receipt 4.0°C		Custody Seal <u>Y</u> or N			Received on Ice <u>Y</u> or N				Samples Intact <u>Y</u> or N							

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 2051167

PM: ADC Due Date: 03/15/17

CLIENT: PASI-MINN



Sample Condition Upon Rec

1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Project #:

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3-3-17 [Signature]

Temp must be measured from Temperature blank when present

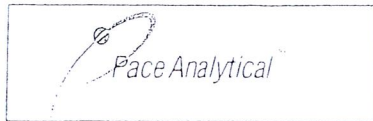
Comments:

Temperature Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form
 Document No.:
F-VM-C-001-Rev.09

Document Revised: 23Feb2015
 Page 1 of 1
 Issuing Authority:
 Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:
Pace - MN

WO#: 1283626
PM: CLJ Due Date: 03/15/17
CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Other:
 Commercial Pace

Tracking Number:

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: Proj. Name:

Packing Material: Bubble Wrap Bubble Bags None Other: Hard Pack Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.2 Cooler Temp Corrected °C: 2.5 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: JPC 3/2/17

Comments: MT 3-3-17

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WJ</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N
 Project Manager Review: M. Lisa Woods Date: 3/6/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

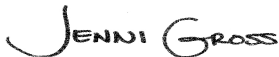
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380475

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380475001	REED-GW-022417	Water	02/24/17 12:10	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380475001	REED-GW-022417	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane
- REED-GW-022417 (Lab ID: 10380475001)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Sample: REED-GW-022417 Lab ID: 10380475001 Collected: 02/24/17 12:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 05:40	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 05:40	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 05:40	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 05:40	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 05:40	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 05:40	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 05:40	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 05:40	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 05:40	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 05:40	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 05:40	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 05:40	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 05:40	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 05:40	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 05:40	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 05:40	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 05:40	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 05:40	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 05:40	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 05:40	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 05:40	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 05:40	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 05:40	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 05:40	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 05:40	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 05:40	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 05:40	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 05:40	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 05:40	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 05:40	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 05:40	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 05:40	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 05:40	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 05:40	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 05:40	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 05:40	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 05:40	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 05:40	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 05:40	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 05:40	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 05:40	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 05:40	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 05:40	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 05:40	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 05:40	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 05:40	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Sample: REED-GW-022417 **Lab ID: 10380475001** Collected: 02/24/17 12:10 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 05:40	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 05:40	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 05:40	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 05:40	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 05:40	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 05:40	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 05:40	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 05:40	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 05:40	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 05:40	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 05:40	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 05:40	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 05:40	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 05:40	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 05:40	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 05:40	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 05:40	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 05:40	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 05:40	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 05:40	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 05:40	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 05:40	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 05:40	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 05:40	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 05:40	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 05:40	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 05:40	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 05:40	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 05:40	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 05:40	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 05:40	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 05:40	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 05:40	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 05:40	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/03/17 05:40	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/03/17 05:40	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/17 05:40	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380475

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380475001

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380475

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380475001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380475

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380475

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380475

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380475

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380475001	REED-GW-022417	EPA 8260B	462187		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill

Project #: WO# : 10380475



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 7096 3372 1940, 1930

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer 151401163 151401164 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.4, 5.9 **Cooler Temp Corrected (°C):** 1.5, 6.0 **Biological Tissue Frozen?** Yes No N/A
 Temp should be above freezing to 6°C **Correction Factor:** 70.1 **Date and Initials of Person Examining Contents:** RG 3/2/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Per method, VOA pH is checked after analysis		
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>2 trip blanks stored with 10380467</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>		

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____

Field Data Required? Yes No

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:55</u>	Temp: <u>14.5.9</u>	Corrected Temp: <u>15.6.0</u>
Time: <u>12:05</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS Date: 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

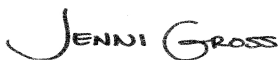
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380478001	DAVEY-GW-022417	Water	02/24/17 13:15	03/01/17 11:15

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380478001	DAVEY-GW-022417	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380478001	DAVEY-GW-022417					
EPA 8260B	Carbon tetrachloride	17.0	ug/L	0.50	03/03/17 06:03	
EPA 8260B	Chloroform	4.6	ug/L	1.0	03/03/17 06:03	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DAVEY-GW-022417 (Lab ID: 10380478001)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Sample: **DAVEY-GW-022417** Lab ID: **10380478001** Collected: 02/24/17 13:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 06:03	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 06:03	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 06:03	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 06:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 06:03	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 06:03	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 06:03	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 06:03	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 06:03	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 06:03	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 06:03	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 06:03	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 06:03	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 06:03	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 06:03	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 06:03	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 06:03	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 06:03	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 06:03	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 06:03	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 06:03	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 06:03	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 06:03	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 06:03	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 06:03	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 06:03	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 06:03	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 06:03	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 06:03	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 06:03	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 06:03	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 06:03	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 06:03	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 06:03	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 06:03	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 06:03	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 06:03	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 06:03	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 06:03	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 06:03	75-15-0	
Carbon tetrachloride	17.0	ug/L	0.50	0.079	1		03/03/17 06:03	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 06:03	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 06:03	75-00-3	
Chloroform	4.6	ug/L	1.0	0.21	1		03/03/17 06:03	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 06:03	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 06:03	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Sample: DAVEY-GW-022417 **Lab ID: 10380478001** Collected: 02/24/17 13:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 06:03	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 06:03	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 06:03	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 06:03	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 06:03	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 06:03	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 06:03	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 06:03	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 06:03	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 06:03	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 06:03	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 06:03	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 06:03	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 06:03	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 06:03	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 06:03	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 06:03	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 06:03	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 06:03	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 06:03	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 06:03	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 06:03	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 06:03	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 06:03	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 06:03	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 06:03	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 06:03	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 06:03	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 06:03	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 06:03	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 06:03	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 06:03	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 06:03	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 06:03	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 06:03	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 06:03	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/17 06:03	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380478001

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380478001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380478001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

MATRIX SPIKE SAMPLE: 2527143

Parameter	Units	10380471001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380478

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

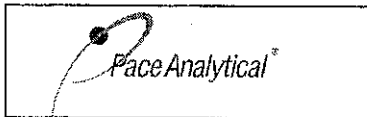
Project: 1497 UPRR_Freeman

Pace Project No.: 10380478

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380478001	DAVEY-GW-022417	EPA 8260B	462187		

REPORT OF LABORATORY ANALYSIS

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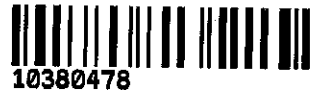
Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.22

Document Revised: 21Dec2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill

Project #: **WO#: 10380478**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other:
 Tracking Number: 7096 3372 1940, 1930

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 14.59 Cooler Temp Corrected (°C): 15.60 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 40.1 Date and Initials of Person Examining Contents: RG 3/2/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain-of-Custody-Filled-Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8D15 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>2 trip blanks shared with 10380467</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>		

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____

Field Data Required? Yes No

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>11:55</u> Temp: <u>14.59</u>	Corrected Temp: <u>15.60</u>
Time: <u>12:05</u> put in cooler	
Time: _____ Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS

Date: 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

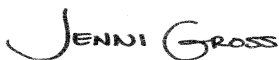
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380479

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380479001	ASHER-GW-022417	Water	02/24/17 14:40	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380479001	ASHER-GW-022417	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Sample: ASHER-GW-022417 **Lab ID: 10380479001** Collected: 02/24/17 14:40 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 17:18	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 17:18	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 17:18	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 17:18	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 17:18	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 17:18	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 17:18	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 17:18	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 17:18	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 17:18	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 17:18	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 17:18	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 17:18	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 17:18	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 17:18	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 17:18	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 17:18	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 17:18	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 17:18	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 17:18	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 17:18	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 17:18	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 17:18	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 17:18	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 17:18	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 17:18	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 17:18	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 17:18	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 17:18	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 17:18	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 17:18	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 17:18	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 17:18	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 17:18	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 17:18	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 17:18	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 17:18	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 17:18	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 17:18	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 17:18	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 17:18	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 17:18	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 17:18	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 17:18	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 17:18	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 17:18	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Sample: ASHER-GW-022417 **Lab ID: 10380479001** Collected: 02/24/17 14:40 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 17:18	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 17:18	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 17:18	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 17:18	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 17:18	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 17:18	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 17:18	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 17:18	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 17:18	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 17:18	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 17:18	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 17:18	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 17:18	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 17:18	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 17:18	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 17:18	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 17:18	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 17:18	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 17:18	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 17:18	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 17:18	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 17:18	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 17:18	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 17:18	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 17:18	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 17:18	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 17:18	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 17:18	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 17:18	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 17:18	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 17:18	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 17:18	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 17:18	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 17:18	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 17:18	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/03/17 17:18	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 17:18	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380479

QC Batch: 462413 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380479001

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380479001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 13:35	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 13:35	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 13:35	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 13:35	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 13:35	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 13:35	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 13:35	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 13:35	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 13:35	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 13:35	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 13:35	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 13:35	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 13:35	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 13:35	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 13:35	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 13:35	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 13:35	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 13:35	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 13:35	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 13:35	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 13:35	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 13:35	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 13:35	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 13:35	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 13:35	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 13:35	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 13:35	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 13:35	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 13:35	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 13:35	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 13:35	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 13:35	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380479

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380479001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 13:35	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 13:35	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 13:35	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 13:35	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 13:35	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 13:35	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 13:35	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 13:35	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 13:35	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 13:35	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 13:35	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 13:35	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 13:35	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 13:35	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 13:35	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 13:35	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 13:35	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 13:35	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 13:35	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 13:35	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 13:35	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 13:35	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 13:35	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 13:35	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 13:35	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 13:35	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 13:35	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 13:35	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 13:35	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/03/17 13:35	
4-Bromofluorobenzene (S)	%	104	75-125		03/03/17 13:35	
Toluene-d8 (S)	%	104	75-125		03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

LABORATORY CONTROL SAMPLE & LCSD: 2528545		2528546									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	19.8	95	99	75-125	4	30		
1,1,1-Trichloroethane	ug/L	20	20.1	20.2	101	101	74-125	0	30		
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	21.3	97	107	67-131	10	30		
1,1,2-Trichloroethane	ug/L	20	19.9	20.5	99	103	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	18.1	92	90	75-125	1	30		
1,1-Dichloroethane	ug/L	20	22.2	22.7	111	113	74-125	2	30		
1,1-Dichloroethene	ug/L	20	19.4	19.1	97	96	74-125	1	30		
1,1-Dichloropropene	ug/L	20	19.9	20.5	99	103	74-125	3	30		
1,2,3-Trichlorobenzene	ug/L	20	16.7	18.4	83	92	63-131	10	30		
1,2,3-Trichloropropane	ug/L	20	19.4	21.1	97	105	73-125	8	30		
1,2,4-Trichlorobenzene	ug/L	20	15.5	16.7	77	83	66-126	8	30		
1,2,4-Trimethylbenzene	ug/L	20	17.2	18.3	86	91	74-129	6	30		
1,2-Dibromo-3-chloropropane	ug/L	50	37.9	44.0	76	88	54-129	15	30		
1,2-Dibromoethane (EDB)	ug/L	20	18.9	20.3	94	101	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	17.3	18.6	87	93	75-125	7	30		
1,2-Dichloroethane	ug/L	20	18.8	19.2	94	96	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	39.5	40.0	99	100	75-125	1	30		
1,2-Dichloropropane	ug/L	20	20.6	21.4	103	107	75-125	4	30		
1,3,5-Trimethylbenzene	ug/L	20	18.2	19.2	91	96	73-127	6	30		
1,3-Dichlorobenzene	ug/L	20	17.6	18.6	88	93	75-125	5	30		
1,3-Dichloropropane	ug/L	20	20.2	21.1	101	105	69-125	4	30		
1,4-Dichlorobenzene	ug/L	20	17.4	18.4	87	92	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	308	396	77	99	70-130	25	30		
2,2,4-Trimethylpentane	ug/L	20	18.5	19.0	92	95	67-138	3	30		
2,2-Dichloropropane	ug/L	20	20.7	20.6	104	103	69-125	1	30		
2-Butanone (MEK)	ug/L	100	94.9	105	95	105	48-145	10	30		
2-Chlorotoluene	ug/L	20	20.4	20.6	102	103	74-125	1	30		
2-Hexanone	ug/L	100	101	114	101	114	63-135	12	30		
4-Chlorotoluene	ug/L	20	19.1	20.2	96	101	73-125	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	115	104	115	53-138	10	30		
Acetone	ug/L	100	96.1	117	96	117	70-142	19	30		
Acrolein	ug/L	200	189	208	94	104	44-150	10	30		
Acrylonitrile	ug/L	200	208	226	104	113	68-125	8	30		
Benzene	ug/L	20	20.1	20.0	100	100	65-125	0	30		
Bromobenzene	ug/L	20	17.9	19.0	90	95	75-125	6	30		
Bromochloromethane	ug/L	20	19.3	19.9	96	100	75-125	3	30		
Bromodichloromethane	ug/L	20	19.4	20.1	97	100	73-125	3	30		
Bromoform	ug/L	20	16.8	17.7	84	88	69-125	5	30		
Bromomethane	ug/L	20	13.3	15.4	66	77	40-136	15	30		
Carbon disulfide	ug/L	20	18.4	18.3	92	92	36-150	1	30		
Carbon tetrachloride	ug/L	20	18.9	19.3	95	97	70-125	2	30		
Chlorobenzene	ug/L	20	18.5	19.1	93	95	75-125	3	30		
Chloroethane	ug/L	20	23.4	22.7	117	114	67-141	3	30		
Chloroform	ug/L	20	18.8	19.0	94	95	75-125	1	30		
Chloromethane	ug/L	20	20.0	20.7	100	104	50-150	4	30		
cis-1,2-Dichloroethene	ug/L	20	19.6	20.1	98	100	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	20	20.3	21.4	102	107	75-125	5	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

LABORATORY CONTROL SAMPLE & LCSD:		2528545		2528546							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.4	19.4	92	97	75-125	5	30		
Dibromomethane	ug/L	20	18.2	19.0	91	95	75-129	4	30		
Dichlorodifluoromethane	ug/L	20	19.4	19.0	97	95	59-135	2	30		
Dichlorofluoromethane	ug/L	20	20.6	20.6	103	103	74-130	0	30		
Diisopropyl ether	ug/L	20	20.2	21.7	101	109	71-125	7	30		
Ethyl-tert-butyl ether	ug/L	20	20.1	21.6	101	108	70-130	7	30		
Ethylbenzene	ug/L	20	18.7	19.3	94	97	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	16.9	17.5	84	88	72-126	4	30		
Isopropylbenzene (Cumene)	ug/L	20	16.9	17.4	84	87	71-136	3	30		
m&p-Xylene	ug/L	40	38.6	39.2	96	98	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.4	20.6	97	103	73-127	6	30		
Methylene Chloride	ug/L	20	20.2	20.9	101	105	68-128	4	30		
n-Butylbenzene	ug/L	20	17.1	17.9	85	89	70-126	4	30		
n-Propylbenzene	ug/L	20	18.9	19.9	94	100	67-131	5	30		
Naphthalene	ug/L	20	13.0	14.8	65	74	52-134	14	30		
o-Xylene	ug/L	20	17.6	18.1	88	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	17.6	18.2	88	91	74-125	3	30		
sec-Butylbenzene	ug/L	20	17.2	18.2	86	91	69-134	6	30		
Styrene	ug/L	20	18.0	18.9	90	94	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.9	20.0	95	100	70-130	6	30		
tert-Butyl Alcohol	ug/L	200	170	222	85	111	66-128	26	30		
tert-Butylbenzene	ug/L	20	16.1	17.3	81	87	71-128	7	30		
Tetrachloroethene	ug/L	20	17.1	17.4	85	87	74-125	2	30		
Tetrahydrofuran	ug/L	200	174	211	87	106	64-142	20	30		
Toluene	ug/L	20	18.3	18.7	92	94	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	19.9	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	21.1	103	106	75-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	51.3	92	103	54-133	11	30		
Trichloroethene	ug/L	20	19.6	19.7	98	98	75-125	1	30		
Trichlorofluoromethane	ug/L	20	19.4	19.1	97	96	75-126	2	30		
Vinyl acetate	ug/L	20	22.9	24.4	115	122	67-126	6	30		
Vinyl chloride	ug/L	20	22.0	22.2	110	111	72-125	1	30		
Xylene (Total)	ug/L	60	56.1	57.3	94	96	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				101	99	75-125				
4-Bromofluorobenzene (S)	%				99	102	75-125				
Toluene-d8 (S)	%				100	100	75-125				

MATRIX SPIKE SAMPLE:		2528547		10380479001							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	18.7	93	75-127					
1,1,1-Trichloroethane	ug/L	<0.057	20	20.4	102	66-142					
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.4	102	70-131					
1,1,2-Trichloroethane	ug/L	<0.064	20	19.5	98	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.4	107	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	22.3	111	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.4	102	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	21.3	106	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.2	91	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.5	103	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	16.6	83	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	17.2	86	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.7	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.1	96	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	17.6	88	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	18.2	91	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	39.9	100	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.6	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	17.9	89	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	17.8	89	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.0	100	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	17.2	86	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	361	90	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	22.1	110	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.3	106	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	97.1	97	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.5	97	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.0	95	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	110	110	60-147	
Acetone	ug/L	<0.64	100	96.5	97	59-150	
Acrolein	ug/L	<2.1	200	280	140	30-150	
Acrylonitrile	ug/L	<0.49	200	210	105	41-148	
Benzene	ug/L	<0.042	20	19.5	97	61-138	
Bromobenzene	ug/L	<0.087	20	18.1	90	74-130	
Bromochloromethane	ug/L	<0.082	20	19.0	95	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	97	66-136	
Bromoform	ug/L	<0.11	20	17.1	86	71-125	
Bromomethane	ug/L	<0.20	20	16.8	84	30-150	
Carbon disulfide	ug/L	<0.20	20	19.3	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	19.7	99	68-140	
Chlorobenzene	ug/L	<0.066	20	18.4	92	75-132	
Chloroethane	ug/L	<0.12	20	24.4	122	55-150	
Chloroform	ug/L	<0.21	20	17.9	90	64-139	
Chloromethane	ug/L	<0.080	20	22.4	112	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.6	98	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.0	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.8	94	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	23.8	119	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.6	108	58-150	
Diisopropyl ether	ug/L	<0.050	20	20.8	104	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380479

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.0	100	30-140	
Ethylbenzene	ug/L	<0.075	20	18.7	93	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	19.6	98	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	16.5	83	65-146	
m&p-Xylene	ug/L	<0.11	40	37.8	95	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.7	98	63-134	
Methylene Chloride	ug/L	<0.097	20	20.1	100	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.1	91	67-134	
n-Propylbenzene	ug/L	<0.049	20	18.9	94	62-142	
Naphthalene	ug/L	<0.064	20	14.0	70	41-150	
o-Xylene	ug/L	<0.044	20	17.6	88	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	17.8	89	64-137	
sec-Butylbenzene	ug/L	<0.094	20	17.8	89	65-142	
Styrene	ug/L	<0.056	20	17.7	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.3	96	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	198	99	59-138	
tert-Butylbenzene	ug/L	<0.051	20	16.7	84	69-135	
Tetrachloroethene	ug/L	<0.13	20	17.5	87	62-142	
Tetrahydrofuran	ug/L	<1.5	200	187	94	55-150	
Toluene	ug/L	<0.059	20	18.4	92	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.3	102	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.7	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50.1	100	31-150	
Trichloroethene	ug/L	<0.044	20	19.8	99	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	22.2	111	63-150	
Vinyl acetate	ug/L	<0.12	20	23.1	116	30-150	
Vinyl chloride	ug/L	<0.098	20	24.8	124	58-150	
Xylene (Total)	ug/L	<0.15	60	55.5	92	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.6	19.0	93	95	75-127	2	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	20.9	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	19.8	19.8	99	99	70-131	0	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.9	19.2	94	96	75-128	2	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.2	21.4	106	107	54-150	1	30
1,1-Dichloroethane	ug/L	<0.055	20	20	23.2	22.9	116	114	58-147	1	30
1,1-Dichloroethene	ug/L	<0.069	20	20	20.4	20.5	102	102	49-150	0	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.3	21.7	106	108	58-147	2	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	16.4	17.6	82	88	57-139	7	30

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380479

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.2	19.9	96	99	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	15.3	16.3	77	81	55-136	6	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.6	86	88	67-138	2	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	40.0	41.0	80	82	63-136	2	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.9	19.1	94	96	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.5	17.9	88	89	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	18.6	94	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.4	40.6	99	101	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.5	19.7	102	99	63-138	4	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.3	18.7	91	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.3	18.0	87	90	75-125	4	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	19.8	20.2	99	101	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.2	17.3	86	86	70-126	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	337	361	84	90	54-145	7	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	19.1	20.5	96	103	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	18.1	17.9	90	90	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	95.5	95.0	95	95	50-144	0	30		
2-Chlorotoluene	ug/L	<0.084	20	20	19.7	20.6	99	103	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	106	108	106	108	43-150	2	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.2	19.4	96	97	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	107	108	107	108	60-147	1	30		
Acetone	ug/L	<0.64	100	100	98.9	97.6	99	98	59-150	1	30		
Acrolein	ug/L	<2.1	200	200	255	254	128	127	30-150	1	30		
Acrylonitrile	ug/L	<0.49	200	200	214	210	107	105	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.8	20.1	99	100	61-138	1	30		
Bromobenzene	ug/L	<0.087	20	20	18.1	18.3	91	91	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	19.2	19.0	96	95	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.1	18.8	96	94	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	16.0	16.6	80	83	71-125	4	30		
Bromomethane	ug/L	<0.20	20	20	15.6	18.5	78	93	30-150	17	30		
Carbon disulfide	ug/L	<0.20	20	20	18.6	18.8	93	94	30-150	1	30		
Carbon tetrachloride	ug/L	2.5	20	20	22.4	22.9	100	102	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	18.6	18.6	93	93	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	24.1	25.0	120	125	55-150	4	30		
Chloroform	ug/L	0.35J	20	20	18.7	19.1	92	94	64-139	2	30		
Chloromethane	ug/L	<0.080	20	20	23.7	23.7	119	119	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.7	20.0	99	100	62-138	1	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.3	17.9	92	90	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	18.1	18.6	90	93	74-125	3	30		
Dibromomethane	ug/L	<0.14	20	20	17.7	17.0	88	85	66-138	4	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	22.7	23.6	114	118	53-150	4	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.2	22.1	106	111	58-150	4	30		
Diisopropyl ether	ug/L	<0.050	20	20	21.3	21.0	107	105	50-139	2	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.6	20.6	103	103	30-140	0	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380479

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Ethylbenzene	ug/L	<0.075	20	20	19.0	19.0	95	95	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	16.3	18.4	81	92	63-139	12	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.0	17.2	85	86	65-146	1	30	
m&p-Xylene	ug/L	<0.11	40	40	38.2	38.7	96	97	72-142	1	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.6	19.9	98	99	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	20.3	19.6	101	98	49-143	4	30	
n-Butylbenzene	ug/L	<0.16	20	20	16.6	17.7	83	89	67-134	7	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.2	95	96	62-142	2	30	
Naphthalene	ug/L	<0.064	20	20	13.8	14.7	69	73	41-150	6	30	
o-Xylene	ug/L	<0.044	20	20	17.7	18.2	89	91	66-138	2	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	16.5	17.1	83	86	64-137	4	30	
sec-Butylbenzene	ug/L	<0.094	20	20	17.4	17.9	87	89	65-142	3	30	
Styrene	ug/L	<0.056	20	20	16.9	16.3	84	81	61-142	3	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.1	19.3	96	96	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	202	207	101	103	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.5	17.1	82	85	69-135	4	30	
Tetrachloroethene	ug/L	<0.13	20	20	16.9	17.4	84	87	62-142	3	30	
Tetrahydrofuran	ug/L	<1.5	200	200	186	188	93	94	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.1	18.3	91	92	66-132	1	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.7	20.6	99	103	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.6	20.0	98	100	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	42.9	43.8	86	88	31-150	2	30	
Trichloroethene	ug/L	<0.044	20	20	19.6	20.3	98	101	64-142	3	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	22.5	108	113	63-150	4	30	
Vinyl acetate	ug/L	<0.12	20	20	19.4	18.8	97	94	30-150	3	30	
Vinyl chloride	ug/L	<0.098	20	20	24.0	25.2	120	126	58-150	5	30	
Xylene (Total)	ug/L	<0.15	60	60	56.0	56.9	93	95	70-140	2	30	
1,2-Dichloroethane-d4 (S)	%						102	101	75-125			
4-Bromofluorobenzene (S)	%						103	104	75-125			
Toluene-d8 (S)	%						98	99	75-125			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380479

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380479001	ASHER-GW-022417	EPA 8260B	462413		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs	Client Name: <u>CH2M Hill</u>	Project #:	WO# : 10380479
Courier: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Speedee <input type="checkbox"/> Other: _____		 10380479	
Tracking Number: <u>7096 3372 1940, 1930</u>			

Custody Seal on Cooler/Box Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material: <input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Thermometer Used: <input checked="" type="checkbox"/> 151401163 <input type="checkbox"/> 151401164	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun	

Cooler Temp Read (°C): 14.59 **Cooler Temp Corrected (°C):** 15.60 **Biological Tissue Frozen?** Yes No N/A

Temp should be above freezing to 6°C **Correction Factor:** 40.1 **Date and Initials of Person Examining Contents:** RC 3/2/17

USDA Regulated Soil (N/A, water sample) Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No N/A

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes, <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
(HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide)	
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	
Per method, VOA pH is checked after analysis	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>2 trip blanks checked with 10380467</u>
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:55</u>	Temp: <u>14.59</u>	Corrected Temp: <u>15.60</u>
Time: <u>12:05</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS **Date:** 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380481001	GWFD-01-022417	Water	02/24/17 10:15	03/01/17 11:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380481001	GWFD-01-022417	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

Sample: **GWFD-01-022417** Lab ID: **10380481001** Collected: 02/24/17 10:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 17:41	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 17:41	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 17:41	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 17:41	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 17:41	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 17:41	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 17:41	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 17:41	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 17:41	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 17:41	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 17:41	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 17:41	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 17:41	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 17:41	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 17:41	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 17:41	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 17:41	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 17:41	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 17:41	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 17:41	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 17:41	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 17:41	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 17:41	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 17:41	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 17:41	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 17:41	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 17:41	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 17:41	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 17:41	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 17:41	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 17:41	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 17:41	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 17:41	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 17:41	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 17:41	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 17:41	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 17:41	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 17:41	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 17:41	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 17:41	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 17:41	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 17:41	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 17:41	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 17:41	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 17:41	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 17:41	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

Sample: GWFD-01-022417 **Lab ID: 10380481001** Collected: 02/24/17 10:15 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 17:41	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 17:41	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 17:41	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 17:41	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 17:41	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 17:41	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 17:41	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 17:41	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 17:41	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 17:41	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 17:41	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 17:41	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 17:41	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 17:41	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 17:41	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 17:41	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 17:41	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 17:41	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 17:41	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 17:41	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 17:41	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 17:41	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 17:41	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 17:41	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 17:41	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 17:41	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 17:41	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 17:41	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 17:41	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 17:41	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 17:41	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 17:41	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 17:41	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 17:41	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/03/17 17:41	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 17:41	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 17:41	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

QC Batch: 462413 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380481001

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380481001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 13:35	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 13:35	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 13:35	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 13:35	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 13:35	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 13:35	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 13:35	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 13:35	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 13:35	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 13:35	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 13:35	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 13:35	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 13:35	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 13:35	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 13:35	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 13:35	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 13:35	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 13:35	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 13:35	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 13:35	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 13:35	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 13:35	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 13:35	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 13:35	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 13:35	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 13:35	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 13:35	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 13:35	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 13:35	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 13:35	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 13:35	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 13:35	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380481001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 13:35	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 13:35	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 13:35	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 13:35	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 13:35	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 13:35	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 13:35	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 13:35	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 13:35	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 13:35	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 13:35	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 13:35	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 13:35	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 13:35	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 13:35	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 13:35	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 13:35	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 13:35	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 13:35	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 13:35	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 13:35	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 13:35	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 13:35	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 13:35	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 13:35	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 13:35	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 13:35	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 13:35	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 13:35	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/03/17 13:35	
4-Bromofluorobenzene (S)	%	104	75-125		03/03/17 13:35	
Toluene-d8 (S)	%	104	75-125		03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

LABORATORY CONTROL SAMPLE & LCSD: 2528545		2528546									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	19.8	95	99	75-125	4	30		
1,1,1-Trichloroethane	ug/L	20	20.1	20.2	101	101	74-125	0	30		
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	21.3	97	107	67-131	10	30		
1,1,2-Trichloroethane	ug/L	20	19.9	20.5	99	103	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	18.1	92	90	75-125	1	30		
1,1-Dichloroethane	ug/L	20	22.2	22.7	111	113	74-125	2	30		
1,1-Dichloroethene	ug/L	20	19.4	19.1	97	96	74-125	1	30		
1,1-Dichloropropene	ug/L	20	19.9	20.5	99	103	74-125	3	30		
1,2,3-Trichlorobenzene	ug/L	20	16.7	18.4	83	92	63-131	10	30		
1,2,3-Trichloropropane	ug/L	20	19.4	21.1	97	105	73-125	8	30		
1,2,4-Trichlorobenzene	ug/L	20	15.5	16.7	77	83	66-126	8	30		
1,2,4-Trimethylbenzene	ug/L	20	17.2	18.3	86	91	74-129	6	30		
1,2-Dibromo-3-chloropropane	ug/L	50	37.9	44.0	76	88	54-129	15	30		
1,2-Dibromoethane (EDB)	ug/L	20	18.9	20.3	94	101	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	17.3	18.6	87	93	75-125	7	30		
1,2-Dichloroethane	ug/L	20	18.8	19.2	94	96	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	39.5	40.0	99	100	75-125	1	30		
1,2-Dichloropropane	ug/L	20	20.6	21.4	103	107	75-125	4	30		
1,3,5-Trimethylbenzene	ug/L	20	18.2	19.2	91	96	73-127	6	30		
1,3-Dichlorobenzene	ug/L	20	17.6	18.6	88	93	75-125	5	30		
1,3-Dichloropropane	ug/L	20	20.2	21.1	101	105	69-125	4	30		
1,4-Dichlorobenzene	ug/L	20	17.4	18.4	87	92	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	308	396	77	99	70-130	25	30		
2,2,4-Trimethylpentane	ug/L	20	18.5	19.0	92	95	67-138	3	30		
2,2-Dichloropropane	ug/L	20	20.7	20.6	104	103	69-125	1	30		
2-Butanone (MEK)	ug/L	100	94.9	105	95	105	48-145	10	30		
2-Chlorotoluene	ug/L	20	20.4	20.6	102	103	74-125	1	30		
2-Hexanone	ug/L	100	101	114	101	114	63-135	12	30		
4-Chlorotoluene	ug/L	20	19.1	20.2	96	101	73-125	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	115	104	115	53-138	10	30		
Acetone	ug/L	100	96.1	117	96	117	70-142	19	30		
Acrolein	ug/L	200	189	208	94	104	44-150	10	30		
Acrylonitrile	ug/L	200	208	226	104	113	68-125	8	30		
Benzene	ug/L	20	20.1	20.0	100	100	65-125	0	30		
Bromobenzene	ug/L	20	17.9	19.0	90	95	75-125	6	30		
Bromochloromethane	ug/L	20	19.3	19.9	96	100	75-125	3	30		
Bromodichloromethane	ug/L	20	19.4	20.1	97	100	73-125	3	30		
Bromoform	ug/L	20	16.8	17.7	84	88	69-125	5	30		
Bromomethane	ug/L	20	13.3	15.4	66	77	40-136	15	30		
Carbon disulfide	ug/L	20	18.4	18.3	92	92	36-150	1	30		
Carbon tetrachloride	ug/L	20	18.9	19.3	95	97	70-125	2	30		
Chlorobenzene	ug/L	20	18.5	19.1	93	95	75-125	3	30		
Chloroethane	ug/L	20	23.4	22.7	117	114	67-141	3	30		
Chloroform	ug/L	20	18.8	19.0	94	95	75-125	1	30		
Chloromethane	ug/L	20	20.0	20.7	100	104	50-150	4	30		
cis-1,2-Dichloroethene	ug/L	20	19.6	20.1	98	100	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	20	20.3	21.4	102	107	75-125	5	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

LABORATORY CONTROL SAMPLE & LCSD:		2528545		2528546							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.4	19.4	92	97	75-125	5	30		
Dibromomethane	ug/L	20	18.2	19.0	91	95	75-129	4	30		
Dichlorodifluoromethane	ug/L	20	19.4	19.0	97	95	59-135	2	30		
Dichlorofluoromethane	ug/L	20	20.6	20.6	103	103	74-130	0	30		
Diisopropyl ether	ug/L	20	20.2	21.7	101	109	71-125	7	30		
Ethyl-tert-butyl ether	ug/L	20	20.1	21.6	101	108	70-130	7	30		
Ethylbenzene	ug/L	20	18.7	19.3	94	97	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	16.9	17.5	84	88	72-126	4	30		
Isopropylbenzene (Cumene)	ug/L	20	16.9	17.4	84	87	71-136	3	30		
m&p-Xylene	ug/L	40	38.6	39.2	96	98	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.4	20.6	97	103	73-127	6	30		
Methylene Chloride	ug/L	20	20.2	20.9	101	105	68-128	4	30		
n-Butylbenzene	ug/L	20	17.1	17.9	85	89	70-126	4	30		
n-Propylbenzene	ug/L	20	18.9	19.9	94	100	67-131	5	30		
Naphthalene	ug/L	20	13.0	14.8	65	74	52-134	14	30		
o-Xylene	ug/L	20	17.6	18.1	88	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	17.6	18.2	88	91	74-125	3	30		
sec-Butylbenzene	ug/L	20	17.2	18.2	86	91	69-134	6	30		
Styrene	ug/L	20	18.0	18.9	90	94	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.9	20.0	95	100	70-130	6	30		
tert-Butyl Alcohol	ug/L	200	170	222	85	111	66-128	26	30		
tert-Butylbenzene	ug/L	20	16.1	17.3	81	87	71-128	7	30		
Tetrachloroethene	ug/L	20	17.1	17.4	85	87	74-125	2	30		
Tetrahydrofuran	ug/L	200	174	211	87	106	64-142	20	30		
Toluene	ug/L	20	18.3	18.7	92	94	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	19.9	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	21.1	103	106	75-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	51.3	92	103	54-133	11	30		
Trichloroethene	ug/L	20	19.6	19.7	98	98	75-125	1	30		
Trichlorofluoromethane	ug/L	20	19.4	19.1	97	96	75-126	2	30		
Vinyl acetate	ug/L	20	22.9	24.4	115	122	67-126	6	30		
Vinyl chloride	ug/L	20	22.0	22.2	110	111	72-125	1	30		
Xylene (Total)	ug/L	60	56.1	57.3	94	96	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				101	99	75-125				
4-Bromofluorobenzene (S)	%				99	102	75-125				
Toluene-d8 (S)	%				100	100	75-125				

MATRIX SPIKE SAMPLE:		2528547		10380479001							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	18.7	93	75-127					
1,1,1-Trichloroethane	ug/L	<0.057	20	20.4	102	66-142					
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.4	102	70-131					
1,1,2-Trichloroethane	ug/L	<0.064	20	19.5	98	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.4	107	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	22.3	111	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.4	102	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	21.3	106	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.2	91	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.5	103	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	16.6	83	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	17.2	86	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.7	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.1	96	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	17.6	88	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	18.2	91	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	39.9	100	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.6	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	17.9	89	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	17.8	89	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.0	100	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	17.2	86	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	361	90	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	22.1	110	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.3	106	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	97.1	97	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.5	97	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.0	95	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	110	110	60-147	
Acetone	ug/L	<0.64	100	96.5	97	59-150	
Acrolein	ug/L	<2.1	200	280	140	30-150	
Acrylonitrile	ug/L	<0.49	200	210	105	41-148	
Benzene	ug/L	<0.042	20	19.5	97	61-138	
Bromobenzene	ug/L	<0.087	20	18.1	90	74-130	
Bromochloromethane	ug/L	<0.082	20	19.0	95	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	97	66-136	
Bromoform	ug/L	<0.11	20	17.1	86	71-125	
Bromomethane	ug/L	<0.20	20	16.8	84	30-150	
Carbon disulfide	ug/L	<0.20	20	19.3	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	19.7	99	68-140	
Chlorobenzene	ug/L	<0.066	20	18.4	92	75-132	
Chloroethane	ug/L	<0.12	20	24.4	122	55-150	
Chloroform	ug/L	<0.21	20	17.9	90	64-139	
Chloromethane	ug/L	<0.080	20	22.4	112	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.6	98	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.0	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.8	94	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	23.8	119	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.6	108	58-150	
Diisopropyl ether	ug/L	<0.050	20	20.8	104	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.0	100	30-140	
Ethylbenzene	ug/L	<0.075	20	18.7	93	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	19.6	98	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	16.5	83	65-146	
m&p-Xylene	ug/L	<0.11	40	37.8	95	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.7	98	63-134	
Methylene Chloride	ug/L	<0.097	20	20.1	100	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.1	91	67-134	
n-Propylbenzene	ug/L	<0.049	20	18.9	94	62-142	
Naphthalene	ug/L	<0.064	20	14.0	70	41-150	
o-Xylene	ug/L	<0.044	20	17.6	88	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	17.8	89	64-137	
sec-Butylbenzene	ug/L	<0.094	20	17.8	89	65-142	
Styrene	ug/L	<0.056	20	17.7	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.3	96	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	198	99	59-138	
tert-Butylbenzene	ug/L	<0.051	20	16.7	84	69-135	
Tetrachloroethene	ug/L	<0.13	20	17.5	87	62-142	
Tetrahydrofuran	ug/L	<1.5	200	187	94	55-150	
Toluene	ug/L	<0.059	20	18.4	92	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.3	102	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.7	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50.1	100	31-150	
Trichloroethene	ug/L	<0.044	20	19.8	99	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	22.2	111	63-150	
Vinyl acetate	ug/L	<0.12	20	23.1	116	30-150	
Vinyl chloride	ug/L	<0.098	20	24.8	124	58-150	
Xylene (Total)	ug/L	<0.15	60	55.5	92	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.6	19.0	93	95	75-127	2	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	20.9	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	19.8	19.8	99	99	70-131	0	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.9	19.2	94	96	75-128	2	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.2	21.4	106	107	54-150	1	30
1,1-Dichloroethane	ug/L	<0.055	20	20	23.2	22.9	116	114	58-147	1	30
1,1-Dichloroethene	ug/L	<0.069	20	20	20.4	20.5	102	102	49-150	0	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.3	21.7	106	108	58-147	2	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	16.4	17.6	82	88	57-139	7	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	RPD	RPD	Qual
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits				
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.2	19.9	96	99	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	15.3	16.3	77	81	55-136	6	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.6	86	88	67-138	2	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	40.0	41.0	80	82	63-136	2	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.9	19.1	94	96	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.5	17.9	88	89	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	18.6	94	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.4	40.6	99	101	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.5	19.7	102	99	63-138	4	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.3	18.7	91	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.3	18.0	87	90	75-125	4	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	19.8	20.2	99	101	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.2	17.3	86	86	70-126	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	337	361	84	90	54-145	7	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	19.1	20.5	96	103	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	18.1	17.9	90	90	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	95.5	95.0	95	95	50-144	0	30		
2-Chlorotoluene	ug/L	<0.084	20	20	19.7	20.6	99	103	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	106	108	106	108	43-150	2	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.2	19.4	96	97	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	107	108	107	108	60-147	1	30		
Acetone	ug/L	<0.64	100	100	98.9	97.6	99	98	59-150	1	30		
Acrolein	ug/L	<2.1	200	200	255	254	128	127	30-150	1	30		
Acrylonitrile	ug/L	<0.49	200	200	214	210	107	105	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.8	20.1	99	100	61-138	1	30		
Bromobenzene	ug/L	<0.087	20	20	18.1	18.3	91	91	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	19.2	19.0	96	95	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.1	18.8	96	94	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	16.0	16.6	80	83	71-125	4	30		
Bromomethane	ug/L	<0.20	20	20	15.6	18.5	78	93	30-150	17	30		
Carbon disulfide	ug/L	<0.20	20	20	18.6	18.8	93	94	30-150	1	30		
Carbon tetrachloride	ug/L	2.5	20	20	22.4	22.9	100	102	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	18.6	18.6	93	93	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	24.1	25.0	120	125	55-150	4	30		
Chloroform	ug/L	0.35J	20	20	18.7	19.1	92	94	64-139	2	30		
Chloromethane	ug/L	<0.080	20	20	23.7	23.7	119	119	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.7	20.0	99	100	62-138	1	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.3	17.9	92	90	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	18.1	18.6	90	93	74-125	3	30		
Dibromomethane	ug/L	<0.14	20	20	17.7	17.0	88	85	66-138	4	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	22.7	23.6	114	118	53-150	4	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.2	22.1	106	111	58-150	4	30		
Diisopropyl ether	ug/L	<0.050	20	20	21.3	21.0	107	105	50-139	2	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.6	20.6	103	103	30-140	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Ethylbenzene	ug/L	<0.075	20	20	19.0	19.0	95	95	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	16.3	18.4	81	92	63-139	12	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.0	17.2	85	86	65-146	1	30	
m&p-Xylene	ug/L	<0.11	40	40	38.2	38.7	96	97	72-142	1	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.6	19.9	98	99	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	20.3	19.6	101	98	49-143	4	30	
n-Butylbenzene	ug/L	<0.16	20	20	16.6	17.7	83	89	67-134	7	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.2	95	96	62-142	2	30	
Naphthalene	ug/L	<0.064	20	20	13.8	14.7	69	73	41-150	6	30	
o-Xylene	ug/L	<0.044	20	20	17.7	18.2	89	91	66-138	2	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	16.5	17.1	83	86	64-137	4	30	
sec-Butylbenzene	ug/L	<0.094	20	20	17.4	17.9	87	89	65-142	3	30	
Styrene	ug/L	<0.056	20	20	16.9	16.3	84	81	61-142	3	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.1	19.3	96	96	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	202	207	101	103	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.5	17.1	82	85	69-135	4	30	
Tetrachloroethene	ug/L	<0.13	20	20	16.9	17.4	84	87	62-142	3	30	
Tetrahydrofuran	ug/L	<1.5	200	200	186	188	93	94	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.1	18.3	91	92	66-132	1	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.7	20.6	99	103	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.6	20.0	98	100	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	42.9	43.8	86	88	31-150	2	30	
Trichloroethene	ug/L	<0.044	20	20	19.6	20.3	98	101	64-142	3	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	22.5	108	113	63-150	4	30	
Vinyl acetate	ug/L	<0.12	20	20	19.4	18.8	97	94	30-150	3	30	
Vinyl chloride	ug/L	<0.098	20	20	24.0	25.2	120	126	58-150	5	30	
Xylene (Total)	ug/L	<0.15	60	60	56.0	56.9	93	95	70-140	2	30	
1,2-Dichloroethane-d4 (S)	%						102	101	75-125			
4-Bromofluorobenzene (S)	%						103	104	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380481

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380481

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380481001	GWFD-01-022417	EPA 8260B	462413		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs	Client Name: <u>CH2M Hill</u>	Project #: _____	<h1 style="margin: 0;">WO#: 10380481</h1>
---	-------------------------------	------------------	---

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: 7096 3372 1940, 1930

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 14.59 Cooler Temp Corrected (°C): 15.60 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: ±0.1 Date and Initials of Person Examining Contents: RG 3/2/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: <u>VOA</u> , Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Per method, VOA pH is checked after analysis		
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>2 trip blanks stored with 10380481</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>		

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____

Field Data Required? Yes No

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:55</u>	Temp: <u>14.59</u>	Corrected Temp: <u>15.60</u>
Time: <u>12:05</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: _____

JENNI GROSS

Date: 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

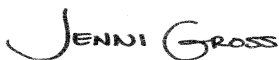
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

525 N 8th Street, Salina, KS 67401

Alaska Certification UST-107

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380485001	MW9D-GW-022717	Water	02/27/17 11:20	03/01/17 11:15
10380485002	MW14D-GW-022717	Water	02/27/17 09:25	03/01/17 11:15
10380485003	Trip Blank	Water	02/27/17 00:00	03/01/17 11:15

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380485001	MW9D-GW-022717	EPA 8260B	DJB	83	PASI-M
10380485002	MW14D-GW-022717	EPA 8260B	DJB	83	PASI-M
10380485003	Trip Blank	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380485001	MW9D-GW-022717					
EPA 8260B	Carbon disulfide	0.36J	ug/L	1.0	03/02/17 17:25	
EPA 8260B	Carbon tetrachloride	132	ug/L	0.50	03/02/17 17:25	
EPA 8260B	Chloroform	5.6	ug/L	1.0	03/02/17 17:25	
10380485003	Trip Blank					
EPA 8260B	Methylene Chloride	0.41J	ug/L	4.0	03/03/17 03:04	

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane
- Trip Blank (Lab ID: 10380485003)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Sample: MW9D-GW-022717 Lab ID: 10380485001 Collected: 02/27/17 11:20 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/02/17 17:25	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/02/17 17:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:25	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/02/17 17:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/02/17 17:25	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:25	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/02/17 17:25	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/02/17 17:25	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/02/17 17:25	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/02/17 17:25	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/02/17 17:25	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/02/17 17:25	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/02/17 17:25	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/02/17 17:25	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/02/17 17:25	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/02/17 17:25	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/02/17 17:25	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/02/17 17:25	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/02/17 17:25	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/02/17 17:25	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/02/17 17:25	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/02/17 17:25	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/02/17 17:25	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/02/17 17:25	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/02/17 17:25	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/02/17 17:25	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/02/17 17:25	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/02/17 17:25	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/02/17 17:25	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/02/17 17:25	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/02/17 17:25	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/02/17 17:25	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/02/17 17:25	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/02/17 17:25	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/02/17 17:25	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/02/17 17:25	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/02/17 17:25	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/02/17 17:25	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/02/17 17:25	74-83-9	
Carbon disulfide	0.36J	ug/L	1.0	0.20	1		03/02/17 17:25	75-15-0	
Carbon tetrachloride	132	ug/L	0.50	0.079	1		03/02/17 17:25	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/02/17 17:25	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/02/17 17:25	75-00-3	
Chloroform	5.6	ug/L	1.0	0.21	1		03/02/17 17:25	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/02/17 17:25	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/02/17 17:25	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Sample: MW9D-GW-022717 **Lab ID: 10380485001** Collected: 02/27/17 11:20 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/02/17 17:25	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/02/17 17:25	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/02/17 17:25	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/02/17 17:25	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/02/17 17:25	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/02/17 17:25	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/02/17 17:25	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/02/17 17:25	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/02/17 17:25	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/02/17 17:25	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/02/17 17:25	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/02/17 17:25	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/02/17 17:25	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/02/17 17:25	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/02/17 17:25	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/02/17 17:25	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:25	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/02/17 17:25	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/02/17 17:25	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/02/17 17:25	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/02/17 17:25	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/02/17 17:25	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/02/17 17:25	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/02/17 17:25	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/02/17 17:25	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/02/17 17:25	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/02/17 17:25	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/02/17 17:25	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/02/17 17:25	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/02/17 17:25	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/02/17 17:25	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/02/17 17:25	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/02/17 17:25	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/02/17 17:25	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/02/17 17:25	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/02/17 17:25	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/02/17 17:25	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Sample: MW14D-GW-022717 Lab ID: 10380485002 Collected: 02/27/17 09:25 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/02/17 17:47	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/02/17 17:47	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:47	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/02/17 17:47	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/02/17 17:47	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:47	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/02/17 17:47	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/02/17 17:47	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/02/17 17:47	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/02/17 17:47	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/02/17 17:47	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/02/17 17:47	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/02/17 17:47	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/02/17 17:47	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/02/17 17:47	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/02/17 17:47	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/02/17 17:47	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/02/17 17:47	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/02/17 17:47	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/02/17 17:47	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/02/17 17:47	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/02/17 17:47	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/02/17 17:47	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/02/17 17:47	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/02/17 17:47	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/02/17 17:47	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/02/17 17:47	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/02/17 17:47	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/02/17 17:47	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/02/17 17:47	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/02/17 17:47	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/02/17 17:47	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/02/17 17:47	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/02/17 17:47	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/02/17 17:47	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/02/17 17:47	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/02/17 17:47	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/02/17 17:47	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/02/17 17:47	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/02/17 17:47	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/02/17 17:47	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/02/17 17:47	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/02/17 17:47	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/02/17 17:47	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/02/17 17:47	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/02/17 17:47	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Sample: MW14D-GW-022717 Lab ID: 10380485002 Collected: 02/27/17 09:25 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/02/17 17:47	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/02/17 17:47	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/02/17 17:47	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/02/17 17:47	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/02/17 17:47	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/02/17 17:47	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/02/17 17:47	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/02/17 17:47	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/02/17 17:47	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/02/17 17:47	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/02/17 17:47	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/02/17 17:47	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/02/17 17:47	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/02/17 17:47	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/02/17 17:47	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/02/17 17:47	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/02/17 17:47	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/02/17 17:47	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/02/17 17:47	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/02/17 17:47	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/02/17 17:47	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/02/17 17:47	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/02/17 17:47	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/02/17 17:47	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/02/17 17:47	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/02/17 17:47	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/02/17 17:47	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/02/17 17:47	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/02/17 17:47	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/02/17 17:47	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/02/17 17:47	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/02/17 17:47	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/02/17 17:47	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/02/17 17:47	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/02/17 17:47	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/02/17 17:47	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/02/17 17:47	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Sample: Trip Blank **Lab ID: 10380485003** Collected: 02/27/17 00:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 03:04	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 03:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:04	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 03:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 03:04	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:04	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 03:04	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 03:04	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 03:04	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 03:04	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 03:04	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 03:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 03:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 03:04	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 03:04	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 03:04	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 03:04	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 03:04	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 03:04	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 03:04	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 03:04	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 03:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 03:04	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 03:04	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 03:04	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 03:04	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 03:04	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 03:04	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 03:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 03:04	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 03:04	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 03:04	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 03:04	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 03:04	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 03:04	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 03:04	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 03:04	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 03:04	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 03:04	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 03:04	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 03:04	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 03:04	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 03:04	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 03:04	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 03:04	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 03:04	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Sample: Trip Blank **Lab ID: 10380485003** Collected: 02/27/17 00:00 Received: 03/01/17 11:15 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 03:04	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 03:04	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 03:04	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 03:04	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 03:04	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 03:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 03:04	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 03:04	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 03:04	1634-04-4	
Methylene Chloride	0.41J	ug/L	4.0	0.097	1		03/03/17 03:04	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 03:04	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 03:04	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 03:04	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 03:04	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 03:04	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 03:04	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:04	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 03:04	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 03:04	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 03:04	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 03:04	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 03:04	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 03:04	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 03:04	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 03:04	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 03:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 03:04	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 03:04	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 03:04	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 03:04	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 03:04	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 03:04	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 03:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 03:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		03/03/17 03:04	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 03:04	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/03/17 03:04	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

QC Batch: 462059 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380485001, 10380485002

METHOD BLANK: 2526617 Matrix: Water
Associated Lab Samples: 10380485001, 10380485002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/02/17 12:12	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/02/17 12:12	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/02/17 12:12	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/02/17 12:12	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/02/17 12:12	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/02/17 12:12	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/02/17 12:12	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/02/17 12:12	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/02/17 12:12	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/02/17 12:12	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/02/17 12:12	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/02/17 12:12	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/02/17 12:12	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/02/17 12:12	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/02/17 12:12	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/02/17 12:12	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/02/17 12:12	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/02/17 12:12	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/02/17 12:12	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/02/17 12:12	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/02/17 12:12	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/02/17 12:12	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/02/17 12:12	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/02/17 12:12	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/02/17 12:12	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/02/17 12:12	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/02/17 12:12	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/02/17 12:12	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/02/17 12:12	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/02/17 12:12	
Acetone	ug/L	<0.64	20.0	0.64	03/02/17 12:12	
Acrolein	ug/L	<2.1	10.0	2.1	03/02/17 12:12	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/02/17 12:12	
Benzene	ug/L	<0.042	0.50	0.042	03/02/17 12:12	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/02/17 12:12	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/02/17 12:12	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/02/17 12:12	
Bromoform	ug/L	<0.11	4.0	0.11	03/02/17 12:12	
Bromomethane	ug/L	<0.20	4.0	0.20	03/02/17 12:12	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/02/17 12:12	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/02/17 12:12	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

METHOD BLANK: 2526617

Matrix: Water

Associated Lab Samples: 10380485001, 10380485002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/02/17 12:12	
Chloroethane	ug/L	<0.12	1.0	0.12	03/02/17 12:12	
Chloroform	ug/L	<0.21	1.0	0.21	03/02/17 12:12	
Chloromethane	ug/L	<0.080	4.0	0.080	03/02/17 12:12	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/02/17 12:12	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/02/17 12:12	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/02/17 12:12	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/02/17 12:12	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/02/17 12:12	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/02/17 12:12	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/02/17 12:12	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/02/17 12:12	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/02/17 12:12	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/02/17 12:12	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/02/17 12:12	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/02/17 12:12	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/02/17 12:12	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/02/17 12:12	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/02/17 12:12	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/02/17 12:12	
Naphthalene	ug/L	<0.064	4.0	0.064	03/02/17 12:12	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/02/17 12:12	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/02/17 12:12	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/02/17 12:12	MN
Styrene	ug/L	<0.056	4.0	0.056	03/02/17 12:12	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/02/17 12:12	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/02/17 12:12	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/02/17 12:12	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/02/17 12:12	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/02/17 12:12	
Toluene	ug/L	<0.059	0.50	0.059	03/02/17 12:12	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/02/17 12:12	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/02/17 12:12	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/02/17 12:12	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/02/17 12:12	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/02/17 12:12	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/02/17 12:12	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/02/17 12:12	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/02/17 12:12	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/02/17 12:12	
4-Bromofluorobenzene (S)	%	103	75-125		03/02/17 12:12	
Toluene-d8 (S)	%	104	75-125		03/02/17 12:12	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

LABORATORY CONTROL SAMPLE: 2526618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.6	98	75-125	
1,1,1-Trichloroethane	ug/L	20	21.2	106	74-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	67-131	
1,1,2-Trichloroethane	ug/L	20	20.6	103	75-125	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.8	94	75-125	
1,1-Dichloroethane	ug/L	20	22.7	114	74-125	
1,1-Dichloroethene	ug/L	20	20.1	101	74-125	
1,1-Dichloropropene	ug/L	20	21.1	106	74-125	
1,2,3-Trichlorobenzene	ug/L	20	18.3	92	63-131	
1,2,3-Trichloropropane	ug/L	20	20.5	102	73-125	
1,2,4-Trichlorobenzene	ug/L	20	16.9	85	66-126	
1,2,4-Trimethylbenzene	ug/L	20	17.6	88	74-129	
1,2-Dibromo-3-chloropropane	ug/L	50	42.9	86	54-129	
1,2-Dibromoethane (EDB)	ug/L	20	20.5	102	75-125	
1,2-Dichlorobenzene	ug/L	20	18.6	93	75-125	
1,2-Dichloroethane	ug/L	20	19.4	97	75-125	
1,2-Dichloroethene (Total)	ug/L	40	41.2	103	75-125	
1,2-Dichloropropane	ug/L	20	21.2	106	75-125	
1,3,5-Trimethylbenzene	ug/L	20	18.5	92	73-127	
1,3-Dichlorobenzene	ug/L	20	18.8	94	75-125	
1,3-Dichloropropane	ug/L	20	20.8	104	69-125	
1,4-Dichlorobenzene	ug/L	20	18.5	93	75-125	
1,4-Dioxane (p-Dioxane)	ug/L	400	318	79	70-130	
2,2,4-Trimethylpentane	ug/L	20	19.1	96	67-138	
2,2-Dichloropropane	ug/L	20	21.2	106	69-125	
2-Butanone (MEK)	ug/L	100	96.7	97	48-145	
2-Chlorotoluene	ug/L	20	19.6	98	74-125	
2-Hexanone	ug/L	100	106	106	63-135	
4-Chlorotoluene	ug/L	20	19.6	98	73-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	53-138	
Acetone	ug/L	100	116	116	70-142	
Acrolein	ug/L	200	161	81	44-150	
Acrylonitrile	ug/L	200	210	105	68-125	
Benzene	ug/L	20	20.2	101	65-125	
Bromobenzene	ug/L	20	19.5	98	75-125	
Bromochloromethane	ug/L	20	20.6	103	75-125	
Bromodichloromethane	ug/L	20	20.7	104	73-125	
Bromoform	ug/L	20	18.4	92	69-125	
Bromomethane	ug/L	20	17.5	87	40-136	
Carbon disulfide	ug/L	20	19.2	96	36-150	
Carbon tetrachloride	ug/L	20	20.2	101	70-125	
Chlorobenzene	ug/L	20	19.1	96	75-125	
Chloroethane	ug/L	20	23.6	118	67-141	
Chloroform	ug/L	20	19.5	97	75-125	
Chloromethane	ug/L	20	21.9	110	50-150	
cis-1,2-Dichloroethene	ug/L	20	20.5	102	75-125	
cis-1,3-Dichloropropene	ug/L	20	21.5	108	75-125	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

LABORATORY CONTROL SAMPLE: 2526618

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	20	20.2	101	75-125	
Dibromomethane	ug/L	20	20.0	100	75-129	
Dichlorodifluoromethane	ug/L	20	20.0	100	59-135	
Dichlorofluoromethane	ug/L	20	20.8	104	74-130	
Diisopropyl ether	ug/L	20	20.7	103	71-125	
Ethyl-tert-butyl ether	ug/L	20	20.8	104	70-130	
Ethylbenzene	ug/L	20	19.3	97	75-125	
Hexachloro-1,3-butadiene	ug/L	20	18.5	92	72-126	
Isopropylbenzene (Cumene)	ug/L	20	17.1	85	71-136	
m&p-Xylene	ug/L	40	39.5	99	75-125	
Methyl-tert-butyl ether	ug/L	20	19.8	99	73-127	
Methylene Chloride	ug/L	20	20.5	103	68-128	
n-Butylbenzene	ug/L	20	17.7	88	70-126	
n-Propylbenzene	ug/L	20	19.0	95	67-131	
Naphthalene	ug/L	20	14.1	70	52-134	
o-Xylene	ug/L	20	17.8	89	75-125	
p-Isopropyltoluene	ug/L	20	17.9	89	74-125	
sec-Butylbenzene	ug/L	20	17.6	88	69-134	
Styrene	ug/L	20	18.4	92	75-125	
tert-Amylmethyl ether	ug/L	20	19.6	98	70-130	
tert-Butyl Alcohol	ug/L	200	175	87	66-128	
tert-Butylbenzene	ug/L	20	16.6	83	71-128	
Tetrachloroethene	ug/L	20	17.6	88	74-125	
Tetrahydrofuran	ug/L	200	194	97	64-142	
Toluene	ug/L	20	18.8	94	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.7	104	73-125	
trans-1,3-Dichloropropene	ug/L	20	21.2	106	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	49.7	99	54-133	
Trichloroethene	ug/L	20	20.5	102	75-125	
Trichlorofluoromethane	ug/L	20	19.8	99	75-126	
Vinyl acetate	ug/L	20	23.3	116	67-126	
Vinyl chloride	ug/L	20	22.8	114	72-125	
Xylene (Total)	ug/L	60	57.3	95	75-125	
1,2-Dichloroethane-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			97	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2526619 2526620

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.9	19.1	94	96	75-127	1	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.7	21.0	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	20.0	19.4	100	97	70-131	3	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	19.4	19.5	97	97	75-128	0	30

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

Parameter	Units	10380464001		2526619		2526620		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.8	22.3	109	111	54-150	2	30		
1,1-Dichloroethane	ug/L	<0.055	20	20	22.0	22.2	110	111	58-147	1	30		
1,1-Dichloroethene	ug/L	<0.069	20	20	20.6	20.8	103	104	49-150	1	30		
1,1-Dichloropropene	ug/L	<0.082	20	20	21.1	21.7	106	108	58-147	2	30		
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	17.9	18.2	90	91	57-139	1	30		
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.3	18.7	97	93	71-127	4	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	17.1	16.9	85	85	55-136	1	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.5	87	87	67-138	1	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	42.1	39.8	84	80	63-136	5	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	19.7	19.5	99	97	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.3	17.5	87	88	75-125	1	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.2	18.6	91	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	40.1	40.7	100	102	55-146	2	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.2	20.7	101	104	63-138	3	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.1	18.5	90	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.9	18.0	90	90	75-125	0	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	20.1	19.9	100	99	65-135	1	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.6	17.7	88	89	70-126	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	366	374	91	93	54-145	2	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	22.8	22.6	114	113	30-150	1	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	21.3	21.6	106	108	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	89.0	88.2	89	88	50-144	1	30		
2-Chlorotoluene	ug/L	<0.084	20	20	18.9	19.6	95	98	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	100	96.9	100	97	43-150	4	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.0	19.4	95	97	71-131	2	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	102	99.7	102	100	60-147	2	30		
Acetone	ug/L	<0.64	100	100	98.5	100	98	100	59-150	2	30		
Acrolein	ug/L	<2.1	200	200	261	261	131	131	30-150	0	30		
Acrylonitrile	ug/L	<0.49	200	200	195	198	97	99	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.5	19.9	98	100	61-138	2	30		
Bromobenzene	ug/L	<0.087	20	20	18.7	18.4	93	92	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	18.9	19.2	95	96	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.4	19.9	97	99	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	17.8	17.3	89	86	71-125	3	30		
Bromomethane	ug/L	<0.20	20	20	18.6	19.2	93	96	30-150	3	30		
Carbon disulfide	ug/L	<0.20	20	20	19.4	19.8	97	99	30-150	2	30		
Carbon tetrachloride	ug/L	<0.079	20	20	19.9	20.2	100	101	68-140	1	30		
Chlorobenzene	ug/L	<0.066	20	20	18.4	18.9	92	94	75-132	2	30		
Chloroethane	ug/L	<0.12	20	20	23.7	24.1	119	121	55-150	2	30		
Chloroform	ug/L	<0.21	20	20	18.2	18.4	91	92	64-139	1	30		
Chloromethane	ug/L	<0.080	20	20	22.1	22.3	111	111	73-150	1	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.5	19.9	97	99	62-138	2	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.7	19.1	94	96	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	19.0	19.2	95	96	74-125	1	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

Parameter	Units	2526619		2526620		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380464001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Dibromomethane	ug/L	<0.14	20	20	18.2	18.1	91	90	66-138	1	30	
Dichlorodifluoromethane	ug/L	<0.075	20	20	23.9	24.0	120	120	53-150	0	30	
Dichlorofluoromethane	ug/L	<0.054	20	20	21.1	21.3	105	106	58-150	1	30	
Diisopropyl ether	ug/L	<0.050	20	20	19.9	20.5	99	102	50-139	3	30	
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	19.7	20.1	99	101	30-140	2	30	
Ethylbenzene	ug/L	<0.075	20	20	18.6	19.1	93	96	66-141	3	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	20.7	19.8	103	99	63-139	5	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	16.7	17.4	83	87	65-146	4	30	
m&p-Xylene	ug/L	<0.11	40	40	38.7	38.5	97	96	72-142	0	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	18.8	19.8	94	99	63-134	5	30	
Methylene Chloride	ug/L	<0.097	20	20	19.3	19.8	97	99	49-143	3	30	
n-Butylbenzene	ug/L	<0.16	20	20	18.1	18.2	91	91	67-134	0	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.6	19.4	93	97	62-142	4	30	
Naphthalene	ug/L	<0.064	20	20	13.6	13.9	68	69	41-150	2	30	
o-Xylene	ug/L	<0.044	20	20	18.0	18.1	90	91	66-138	1	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	17.9	18.0	90	90	64-137	0	30	
sec-Butylbenzene	ug/L	<0.094	20	20	18.1	18.2	90	91	65-142	1	30	
Styrene	ug/L	<0.056	20	20	17.9	18.1	90	90	61-142	1	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	18.8	19.1	94	96	65-125	2	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	191	195	95	97	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.6	17.2	83	86	69-135	3	30	
Tetrachloroethene	ug/L	<0.13	20	20	17.9	17.9	89	90	62-142	0	30	
Tetrahydrofuran	ug/L	<1.5	200	200	198	196	99	98	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.5	18.7	92	94	66-132	2	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	20.6	20.8	103	104	48-150	1	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	20.5	20.5	102	103	65-130	0	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	48.6	48.7	97	97	31-150	0	30	
Trichloroethene	ug/L	<0.044	20	20	20.0	20.3	100	101	64-142	1	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	22.1	22.5	111	113	63-150	2	30	
Vinyl acetate	ug/L	<0.12	20	20	22.0	22.3	110	111	30-150	1	30	
Vinyl chloride	ug/L	<0.098	20	20	24.5	24.8	122	124	58-150	1	30	
Xylene (Total)	ug/L	<0.15	60	60	56.6	56.6	94	94	70-140	0	30	
1,2-Dichloroethane-d4 (S)	%						99	99	75-125			
4-Bromofluorobenzene (S)	%						103	102	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380485003

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380485003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380485003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380485

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

MATRIX SPIKE SAMPLE: 2527143

Parameter	Units	10380471001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%					99	75-125
4-Bromofluorobenzene (S)	%					106	75-125
Toluene-d8 (S)	%					100	75-125

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380485

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380485001	MW9D-GW-022717	EPA 8260B	462059		
10380485002	MW14D-GW-022717	EPA 8260B	462059		
10380485003	Trip Blank	EPA 8260B	462187		

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Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.22

Document Revised: 21Dec2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

**Sample Condition
 Upon Receipt - ESI
 Tech Specs**

Client Name: UPPER CHAM HILL

Project #: **WO# : 10380485**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7096 8372 1951

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer 151401163 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: -151401164

Cooler Temp Read (°C): 0.6 Cooler Temp Corrected (°C): 0.7 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 10.1 Date and Initials of Person Examining Contents: Kh B 01.17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		8. <u>NO MS/MSD</u>
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12.
-Includes Date/Time/ID/Analysis... Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		15.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <u>110912</u>			

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>1240</u>	Temp: <u>0.6</u>	Corrected Temp: <u>0.7</u>
Time: <u>1300</u>	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review:

JENNI GROSS

Date: 03/01/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 22, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

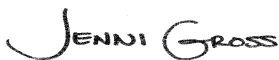
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414	Minnesota Certification #: 027-053-137
A2LA Certification #: 2926.01	Mississippi Certification #: MN00064
Alabama Certification #: 40770	Montana Certification #: CERT0092
Alaska Contaminated Sites Certification #: UST-078	Nebraska Certification #: NE-OS-18-06
Alaska DW Certification #: MN00064	Nevada Certification #: MN00064
Arizona Certification #: AZ0014	New Hampshire Certification #: 2081
Arkansas Certification #: 88-0680	New Jersey Certification #: MN002
California Certification #: MN00064	New York Certification #: 11647
CNMI Saipan Certification #:MP0003	North Carolina DW Certification #: 27700
Colorado Certification #: MN00064	North Carolina WW Certification #: 530
Connecticut Certification #: PH-0256	North Dakota Certification #: R-036
EPA Region 8 Certification #: 8TMS-L	Ohio DW Certification #: 41244
Florida Certification #: E87605	Ohio VAP Certification #: CL101
Georgia Certification #: 959	Oklahoma Certification #: 9507
Guam EPA Certification #: MN00064	Oregon NwTPH Certification #: MN300001
Hawaii Certification #: MN00064	Oregon Secondary Certification #: MN200001
Idaho Certification #: MN00064	Pennsylvania Certification #: 68-00563
Illinois Certification #: 200011	Puerto Rico Certification #: MN00064
Indiana Certification #: C-MN-01	South Carolina Certification #:74003001
Iowa Certification #: 368	Tennessee Certification #: TN02818
Kansas Certification #: E-10167	Texas Certification #: T104704192
Kentucky DW Certification #: 90062	Utah Certification #: MN00064
Kentucky WW Certification #: 90062	Virginia Certification #: 460163
Louisiana DEQ Certification #: 03086	Washington Certification #: C486
Louisiana DW Certification #: MN00064	West Virginia DW Certification #: 9952 C
Maine Certification #: MN00064	West Virginia WW Certification #: 382
Maryland Certification #: 322	Wisconsin Certification #: 999407970
Michigan Certification #: 9909	Wyoming via EPA Region 8 Certification #: 8TMS-L

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792	Minnesota Dept of Health Certification #: 027-137-445
California Certification #2973	North Dakota Certification: # R-203
Alaska Certification UST-107	Wisconsin DNR Certification # : 998027470
Alaska Certification UST-107	WA Department of Ecology Lab ID# C1007
California Certification #2973	Nevada DNR #MN010842015-1
Alaska Certification #MN01084	Oklahoma Department of Environmental Quality
Arizona Department of Health Certification #AZ0785	California Certification #2973

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA	Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Florida Department of Health (NELAC): E87595	Texas Commission on Env. Quality (NELAC): T104704405-09-TX
Illinois Environmental Protection Agency: 0025721	U.S. Dept. of Agriculture Foreign Soil Import: P330-10- 00119
Kansas Department of Health and Environment (NELAC): E-10266	Commonwealth of Virginia (TNI): 480246
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006	

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380558001	MW9S-GW-030117	Water	03/01/17 08:15	03/02/17 09:45
10380558002	MW7S-GW-030117	Water	03/01/17 09:25	03/02/17 09:45
10380558003	MW5D-GW-030117	Water	03/01/17 11:40	03/02/17 09:45
10380558004	WS5Influent-GW-030117	Water	03/01/17 12:15	03/02/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory		
10380558001	MW9S-GW-030117	RSK 175	MJL	3	PASI-M		
		6010C Met	IP	22	PASI-M		
		EPA 7470A	LMW	1	PASI-M		
		EPA 8260B	DJB	83	PASI-M		
		Hach 10360 Rev 1.1	AJS	1	PASI-M		
		SM 2320B	JFP	1	PASI-M		
		SM 2540C	JFP	1	PASI-M		
		SM 4500-S-2 D	CN	1	PASI-N		
		EPA 300.0	KEO	3	PASI-M		
		EPA 410.4	AJS	1	PASI-M		
		SM 5310C	KRV	1	PASI-V		
		10380558002	MW7S-GW-030117	RSK 175	MJL	3	PASI-M
				6010C Met	IP	22	PASI-M
EPA 7470A	LMW			1	PASI-M		
SM 2320B	JFP			1	PASI-M		
SM 2540C	JFP			1	PASI-M		
SM 4500-S-2 D	CN			1	PASI-N		
EPA 300.0	KEO			3	PASI-M		
SM 5310C	KRV			1	PASI-V		
10380558003	MW5D-GW-030117			RSK 175	MJL	3	PASI-M
				6010C Met	IP	22	PASI-M
		EPA 7470A	LMW	1	PASI-M		
		SM 2320B	JFP	1	PASI-M		
		SM 2540C	JFP	1	PASI-M		
		SM 4500-S-2 D	CN	1	PASI-N		
		EPA 300.0	KEO	3	PASI-M		
		SM 5310C	KRV	1	PASI-V		
10380558004	WS5Influent-GW-030117	RSK 175	MJL	3	PASI-M		
		6010C Met	IP	22	PASI-M		
		EPA 7470A	LMW	1	PASI-M		
		SM 2320B	JFP	1	PASI-M		
		SM 2540C	JFP	1	PASI-M		
		SM 4500-S-2 D	CN	1	PASI-N		
		EPA 300.0	KEO	3	PASI-M		
		SM 5310C	KRV	1	PASI-V		

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380558001	MW9S-GW-030117					
RSK 175	Methane	1.2J	ug/L	10.0	03/07/17 09:13	
6010C Met	Aluminum, Dissolved	1540	ug/L	200	03/06/17 07:37	
6010C Met	Barium, Dissolved	77.8	ug/L	10.0	03/06/17 07:37	
6010C Met	Calcium, Dissolved	63600	ug/L	500	03/06/17 07:37	
6010C Met	Cobalt, Dissolved	2.0J	ug/L	10.0	03/06/17 07:37	
6010C Met	Copper, Dissolved	0.99J	ug/L	10.0	03/06/17 07:37	
6010C Met	Iron, Dissolved	3010	ug/L	50.0	03/06/17 07:37	
6010C Met	Lead, Dissolved	3.0J	ug/L	10.0	03/06/17 07:37	
6010C Met	Magnesium, Dissolved	14300	ug/L	500	03/06/17 07:37	
6010C Met	Manganese, Dissolved	111	ug/L	5.0	03/06/17 07:37	
6010C Met	Potassium, Dissolved	1450J	ug/L	2500	03/06/17 07:37	
6010C Met	Sodium, Dissolved	12900	ug/L	1000	03/06/17 07:37	
6010C Met	Thallium, Dissolved	5.9J	ug/L	20.0	03/06/17 07:37	
6010C Met	Vanadium, Dissolved	7.7J	ug/L	15.0	03/06/17 07:37	
6010C Met	Zinc, Dissolved	19.4J	ug/L	20.0	03/06/17 07:37	B
EPA 8260B	Carbon disulfide	1.4	ug/L	1.0	03/03/17 19:10	
EPA 8260B	Carbon tetrachloride	521	ug/L	2.5	03/06/17 14:06	
EPA 8260B	Chloroform	74.9	ug/L	1.0	03/03/17 19:10	
Hach 10360 Rev 1.1	BOD, 5 day	1.3J	mg/L	2.0	03/07/17 14:50	B4,B6
SM 2320B	Alkalinity, Total as CaCO3	81.6	mg/L	5.0	03/11/17 12:40	
SM 2540C	Total Dissolved Solids	444	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	28.0	mg/L	6.0	03/02/17 19:48	
EPA 300.0	Nitrate as N	13.2	mg/L	0.50	03/02/17 19:48	
EPA 300.0	Sulfate	61.2	mg/L	6.0	03/02/17 19:48	
SM 5310C	Total Organic Carbon	1.4	mg/L	1.0	03/04/17 03:01	
10380558002	MW7S-GW-030117					
RSK 175	Methane	2.0J	ug/L	10.0	03/07/17 09:34	
6010C Met	Aluminum, Dissolved	34.7J	ug/L	200	03/06/17 07:56	
6010C Met	Barium, Dissolved	20.7	ug/L	10.0	03/06/17 07:56	
6010C Met	Calcium, Dissolved	39600	ug/L	500	03/06/17 07:56	
6010C Met	Cobalt, Dissolved	0.86J	ug/L	10.0	03/06/17 07:56	
6010C Met	Lead, Dissolved	2.4J	ug/L	10.0	03/06/17 07:56	
6010C Met	Magnesium, Dissolved	10500	ug/L	500	03/06/17 07:56	
6010C Met	Manganese, Dissolved	18.0	ug/L	5.0	03/06/17 07:56	
6010C Met	Potassium, Dissolved	556J	ug/L	2500	03/06/17 07:56	B
6010C Met	Sodium, Dissolved	11500	ug/L	1000	03/06/17 07:56	
6010C Met	Thallium, Dissolved	5.8J	ug/L	20.0	03/06/17 07:56	
6010C Met	Vanadium, Dissolved	2.0J	ug/L	15.0	03/06/17 07:56	
6010C Met	Zinc, Dissolved	7.6J	ug/L	20.0	03/06/17 07:56	B
SM 2320B	Alkalinity, Total as CaCO3	96.2	mg/L	5.0	03/11/17 12:43	
SM 2540C	Total Dissolved Solids	283	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	10.8	mg/L	1.2	03/02/17 17:02	
EPA 300.0	Nitrate as N	7.7	mg/L	0.10	03/02/17 17:02	
EPA 300.0	Sulfate	22.7	mg/L	1.2	03/02/17 17:02	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	03/04/17 03:15	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380558003	MW5D-GW-030117					
RSK 175	Methane	1.6J	ug/L	10.0	03/07/17 09:41	
6010C Met	Arsenic, Dissolved	3.0J	ug/L	20.0	03/06/17 08:00	
6010C Met	Barium, Dissolved	98.0	ug/L	10.0	03/06/17 08:00	
6010C Met	Calcium, Dissolved	47200	ug/L	500	03/06/17 08:00	
6010C Met	Cobalt, Dissolved	0.63J	ug/L	10.0	03/06/17 08:00	
6010C Met	Magnesium, Dissolved	14200	ug/L	500	03/06/17 08:00	
6010C Met	Manganese, Dissolved	15.4	ug/L	5.0	03/06/17 08:00	
6010C Met	Potassium, Dissolved	3630	ug/L	2500	03/06/17 08:00	
6010C Met	Sodium, Dissolved	27200	ug/L	1000	03/06/17 08:00	
6010C Met	Thallium, Dissolved	4.8J	ug/L	20.0	03/06/17 08:00	
6010C Met	Vanadium, Dissolved	3.3J	ug/L	15.0	03/06/17 08:00	
6010C Met	Zinc, Dissolved	4.5J	ug/L	20.0	03/06/17 08:00	B
SM 2320B	Alkalinity, Total as CaCO3	200	mg/L	5.0	03/11/17 12:47	
SM 2540C	Total Dissolved Solids	310	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	3.7	mg/L	1.2	03/02/17 17:17	
EPA 300.0	Nitrate as N	0.73	mg/L	0.10	03/02/17 17:17	
EPA 300.0	Sulfate	9.3	mg/L	1.2	03/02/17 17:17	
SM 5310C	Total Organic Carbon	1.0	mg/L	1.0	03/04/17 03:28	
10380558004	WS5Influent-GW-030117					
RSK 175	Methane	2.0J	ug/L	10.0	03/07/17 09:49	
6010C Met	Barium, Dissolved	53.9	ug/L	10.0	03/06/17 08:04	
6010C Met	Calcium, Dissolved	35300	ug/L	500	03/06/17 08:04	
6010C Met	Cobalt, Dissolved	0.69J	ug/L	10.0	03/06/17 08:04	
6010C Met	Copper, Dissolved	3.9J	ug/L	10.0	03/06/17 08:04	
6010C Met	Magnesium, Dissolved	14900	ug/L	500	03/06/17 08:04	
6010C Met	Potassium, Dissolved	4630	ug/L	2500	03/06/17 08:04	
6010C Met	Sodium, Dissolved	14000	ug/L	1000	03/06/17 08:04	
6010C Met	Vanadium, Dissolved	18.0	ug/L	15.0	03/06/17 08:04	
6010C Met	Zinc, Dissolved	14.8J	ug/L	20.0	03/06/17 08:04	B
SM 2320B	Alkalinity, Total as CaCO3	161	mg/L	5.0	03/11/17 12:51	
SM 2540C	Total Dissolved Solids	261	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	3.1	mg/L	1.2	03/02/17 17:32	
EPA 300.0	Nitrate as N	1.1	mg/L	0.10	03/02/17 17:32	
EPA 300.0	Sulfate	5.9	mg/L	1.2	03/02/17 17:32	
SM 5310C	Total Organic Carbon	0.42J	mg/L	1.0	03/04/17 03:41	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 462430

B: Analyte was detected in the associated method blank.

- BLANK for HBN 462430 [MPRP/705 (Lab ID: 2528598)]
 - Potassium, Dissolved
 - Zinc, Dissolved

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

Method: Hach 10360 Rev 1.1
Description: Hach 10360 Rev 1.1 BOD
Client: UPRR_CH2M Hill
Date: March 22, 2017

General Information:

1 sample was analyzed for Hach 10360 Rev 1.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with Hach 10360 with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 462154

B4: The glucose/glutamic acid standard exceeded the range of 198 plus or minus 30.5 mg/L.

- LCS (Lab ID: 2527042)
- BOD, 5 day

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 462154

B6: The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.

- BLANK (Lab ID: 2527040)
 - BOD, 5 day
- DUP (Lab ID: 2527043)
 - BOD, 5 day
- LCS (Lab ID: 2527042)
 - BOD, 5 day
- MW9S-GW-030117 (Lab ID: 10380558001)
 - BOD, 5 day

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 75738

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 2051086001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 319559)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: EPA 410.4

Description: 410.4 COD

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

1 sample was analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462634

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380397001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2529829)
 - Chemical Oxygen Demand
- MSD (Lab ID: 2529830)
 - Chemical Oxygen Demand

R1: RPD value was outside control limits.

- MSD (Lab ID: 2529830)
 - Chemical Oxygen Demand

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

4 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: **MW9S-GW-030117** Lab ID: **10380558001** Collected: 03/01/17 08:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 09:13	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 09:13	74-85-1	
Methane	1.2J	ug/L	10.0	0.49	1		03/07/17 09:13	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	1540	ug/L	200	13.5	1	03/03/17 13:52	03/06/17 07:37	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 07:37	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 07:37	7440-38-2	
Barium, Dissolved	77.8	ug/L	10.0	0.20	1	03/03/17 13:52	03/06/17 07:37	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 13:52	03/06/17 07:37	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 13:52	03/06/17 07:37	7440-43-9	
Calcium, Dissolved	63600	ug/L	500	15.8	1	03/03/17 13:52	03/06/17 07:37	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 13:52	03/06/17 07:37	7440-47-3	
Cobalt, Dissolved	2.0J	ug/L	10.0	0.51	1	03/03/17 13:52	03/06/17 07:37	7440-48-4	
Copper, Dissolved	0.99J	ug/L	10.0	0.89	1	03/03/17 13:52	03/06/17 07:37	7440-50-8	
Iron, Dissolved	3010	ug/L	50.0	18.0	1	03/03/17 13:52	03/06/17 07:37	7439-89-6	
Lead, Dissolved	3.0J	ug/L	10.0	1.9	1	03/03/17 13:52	03/06/17 07:37	7439-92-1	
Magnesium, Dissolved	14300	ug/L	500	7.4	1	03/03/17 13:52	03/06/17 07:37	7439-95-4	
Manganese, Dissolved	111	ug/L	5.0	0.33	1	03/03/17 13:52	03/06/17 07:37	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 13:52	03/06/17 07:37	7440-02-0	
Potassium, Dissolved	1450J	ug/L	2500	26.1	1	03/03/17 13:52	03/06/17 07:37	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 13:52	03/06/17 07:37	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 13:52	03/06/17 07:37	7440-22-4	
Sodium, Dissolved	12900	ug/L	1000	12.0	1	03/03/17 13:52	03/06/17 07:37	7440-23-5	
Thallium, Dissolved	5.9J	ug/L	20.0	3.8	1	03/03/17 13:52	03/06/17 07:37	7440-28-0	
Vanadium, Dissolved	7.7J	ug/L	15.0	0.39	1	03/03/17 13:52	03/06/17 07:37	7440-62-2	
Zinc, Dissolved	19.4J	ug/L	20.0	1.4	1	03/03/17 13:52	03/06/17 07:37	7440-66-6	B
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 14:44	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 19:10	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 19:10	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 19:10	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 19:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 19:10	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 19:10	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 19:10	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 19:10	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 19:10	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 19:10	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 19:10	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 19:10	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 19:10	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 19:10	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: **MW9S-GW-030117** Lab ID: **10380558001** Collected: 03/01/17 08:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 19:10	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 19:10	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 19:10	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 19:10	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 19:10	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 19:10	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 19:10	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 19:10	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 19:10	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 19:10	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 19:10	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 19:10	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 19:10	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 19:10	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 19:10	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 19:10	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 19:10	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 19:10	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 19:10	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 19:10	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 19:10	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 19:10	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 19:10	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 19:10	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 19:10	74-83-9	
Carbon disulfide	1.4	ug/L	1.0	0.20	1		03/03/17 19:10	75-15-0	
Carbon tetrachloride	521	ug/L	2.5	0.40	5		03/06/17 14:06	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 19:10	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 19:10	75-00-3	
Chloroform	74.9	ug/L	1.0	0.21	1		03/03/17 19:10	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 19:10	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 19:10	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 19:10	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 19:10	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 19:10	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 19:10	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 19:10	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 19:10	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 19:10	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 19:10	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 19:10	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 19:10	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 19:10	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 19:10	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 19:10	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 19:10	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: MW9S-GW-030117 **Lab ID: 10380558001** Collected: 03/01/17 08:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 19:10	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 19:10	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 19:10	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 19:10	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 19:10	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 19:10	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 19:10	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 19:10	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 19:10	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 19:10	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 19:10	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 19:10	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 19:10	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 19:10	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 19:10	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 19:10	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 19:10	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 19:10	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 19:10	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 19:10	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 19:10	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 19:10	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 19:10	460-00-4	
Hach 10360 Rev 1.1 BOD Analytical Method: Hach 10360 Rev 1.1 Preparation Method: Hach 10360									
BOD, 5 day	1.3J	mg/L	2.0	1.0	1	03/02/17 11:40	03/07/17 14:50		B4,B6
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	81.6	mg/L	5.0	1.4	1		03/11/17 12:40		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	444	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:54	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	28.0	mg/L	6.0	0.52	5		03/02/17 19:48	16887-00-6	
Nitrate as N	13.2	mg/L	0.50	0.065	5		03/02/17 19:48	14797-55-8	
Sulfate	61.2	mg/L	6.0	0.81	5		03/02/17 19:48	14808-79-8	
410.4 COD Analytical Method: EPA 410.4 Preparation Method: EPA 410.4									
Chemical Oxygen Demand	<5.4	mg/L	50.0	5.4	1	03/07/17 09:34	03/07/17 13:49		

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: MW9S-GW-030117 **Lab ID: 10380558001** Collected: 03/01/17 08:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.4	mg/L	1.0	0.20	1		03/04/17 03:01	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: MW7S-GW-030117 **Lab ID:** 10380558002 Collected: 03/01/17 09:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace									
Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 09:34	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 09:34	74-85-1	
Methane	2.0J	ug/L	10.0	0.49	1		03/07/17 09:34	74-82-8	
6010C MET ICP, Dissolved									
Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	34.7J	ug/L	200	13.5	1	03/03/17 13:52	03/06/17 07:56	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 07:56	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 07:56	7440-38-2	
Barium, Dissolved	20.7	ug/L	10.0	0.20	1	03/03/17 13:52	03/06/17 07:56	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 13:52	03/06/17 07:56	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 13:52	03/06/17 07:56	7440-43-9	
Calcium, Dissolved	39600	ug/L	500	15.8	1	03/03/17 13:52	03/06/17 07:56	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 13:52	03/06/17 07:56	7440-47-3	
Cobalt, Dissolved	0.86J	ug/L	10.0	0.51	1	03/03/17 13:52	03/06/17 07:56	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/03/17 13:52	03/06/17 07:56	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/03/17 13:52	03/06/17 07:56	7439-89-6	
Lead, Dissolved	2.4J	ug/L	10.0	1.9	1	03/03/17 13:52	03/06/17 07:56	7439-92-1	
Magnesium, Dissolved	10500	ug/L	500	7.4	1	03/03/17 13:52	03/06/17 07:56	7439-95-4	
Manganese, Dissolved	18.0	ug/L	5.0	0.33	1	03/03/17 13:52	03/06/17 07:56	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 13:52	03/06/17 07:56	7440-02-0	
Potassium, Dissolved	556J	ug/L	2500	26.1	1	03/03/17 13:52	03/06/17 07:56	7440-09-7	B
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 13:52	03/06/17 07:56	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 13:52	03/06/17 07:56	7440-22-4	
Sodium, Dissolved	11500	ug/L	1000	12.0	1	03/03/17 13:52	03/06/17 07:56	7440-23-5	
Thallium, Dissolved	5.8J	ug/L	20.0	3.8	1	03/03/17 13:52	03/06/17 07:56	7440-28-0	
Vanadium, Dissolved	2.0J	ug/L	15.0	0.39	1	03/03/17 13:52	03/06/17 07:56	7440-62-2	
Zinc, Dissolved	7.6J	ug/L	20.0	1.4	1	03/03/17 13:52	03/06/17 07:56	7440-66-6	B
7470A Mercury, Dissolved									
Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 14:46	7439-97-6	
2320B Alkalinity									
Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	96.2	mg/L	5.0	1.4	1		03/11/17 12:43		
2540C Total Dissolved Solids									
Analytical Method: SM 2540C									
Total Dissolved Solids	283	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total									
Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:54	18496-25-8	
300.0 IC Anions									
Analytical Method: EPA 300.0									
Chloride	10.8	mg/L	1.2	0.10	1		03/02/17 17:02	16887-00-6	
Nitrate as N	7.7	mg/L	0.10	0.013	1		03/02/17 17:02	14797-55-8	
Sulfate	22.7	mg/L	1.2	0.16	1		03/02/17 17:02	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: MW7S-GW-030117 **Lab ID: 10380558002** Collected: 03/01/17 09:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.1	mg/L	1.0	0.20	1		03/04/17 03:15	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

Sample: MW5D-GW-030117 **Lab ID:** 10380558003 Collected: 03/01/17 11:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 09:41	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 09:41	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		03/07/17 09:41	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 13:52	03/06/17 08:00	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:00	7440-36-0	
Arsenic, Dissolved	3.0J	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:00	7440-38-2	
Barium, Dissolved	98.0	ug/L	10.0	0.20	1	03/03/17 13:52	03/06/17 08:00	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 13:52	03/06/17 08:00	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 13:52	03/06/17 08:00	7440-43-9	
Calcium, Dissolved	47200	ug/L	500	15.8	1	03/03/17 13:52	03/06/17 08:00	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 13:52	03/06/17 08:00	7440-47-3	
Cobalt, Dissolved	0.63J	ug/L	10.0	0.51	1	03/03/17 13:52	03/06/17 08:00	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/03/17 13:52	03/06/17 08:00	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/03/17 13:52	03/06/17 08:00	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/03/17 13:52	03/06/17 08:00	7439-92-1	
Magnesium, Dissolved	14200	ug/L	500	7.4	1	03/03/17 13:52	03/06/17 08:00	7439-95-4	
Manganese, Dissolved	15.4	ug/L	5.0	0.33	1	03/03/17 13:52	03/06/17 08:00	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 13:52	03/06/17 08:00	7440-02-0	
Potassium, Dissolved	3630	ug/L	2500	26.1	1	03/03/17 13:52	03/06/17 08:00	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 13:52	03/06/17 08:00	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 13:52	03/06/17 08:00	7440-22-4	
Sodium, Dissolved	27200	ug/L	1000	12.0	1	03/03/17 13:52	03/06/17 08:00	7440-23-5	
Thallium, Dissolved	4.8J	ug/L	20.0	3.8	1	03/03/17 13:52	03/06/17 08:00	7440-28-0	
Vanadium, Dissolved	3.3J	ug/L	15.0	0.39	1	03/03/17 13:52	03/06/17 08:00	7440-62-2	
Zinc, Dissolved	4.5J	ug/L	20.0	1.4	1	03/03/17 13:52	03/06/17 08:00	7440-66-6	B
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 14:48	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	200	mg/L	5.0	1.4	1		03/11/17 12:47		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	310	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:55	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	3.7	mg/L	1.2	0.10	1		03/02/17 17:17	16887-00-6	
Nitrate as N	0.73	mg/L	0.10	0.013	1		03/02/17 17:17	14797-55-8	
Sulfate	9.3	mg/L	1.2	0.16	1		03/02/17 17:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: MW5D-GW-030117 **Lab ID: 10380558003** Collected: 03/01/17 11:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.0	mg/L	1.0	0.20	1		03/04/17 03:28	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: WS5Influent-GW-030117 **Lab ID:** 10380558004 Collected: 03/01/17 12:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 09:49	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 09:49	74-85-1	
Methane	2.0J	ug/L	10.0	0.49	1		03/07/17 09:49	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 13:52	03/06/17 08:04	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:04	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:04	7440-38-2	
Barium, Dissolved	53.9	ug/L	10.0	0.20	1	03/03/17 13:52	03/06/17 08:04	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 13:52	03/06/17 08:04	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 13:52	03/06/17 08:04	7440-43-9	
Calcium, Dissolved	35300	ug/L	500	15.8	1	03/03/17 13:52	03/06/17 08:04	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 13:52	03/06/17 08:04	7440-47-3	
Cobalt, Dissolved	0.69J	ug/L	10.0	0.51	1	03/03/17 13:52	03/06/17 08:04	7440-48-4	
Copper, Dissolved	3.9J	ug/L	10.0	0.89	1	03/03/17 13:52	03/06/17 08:04	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/03/17 13:52	03/06/17 08:04	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/03/17 13:52	03/06/17 08:04	7439-92-1	
Magnesium, Dissolved	14900	ug/L	500	7.4	1	03/03/17 13:52	03/06/17 08:04	7439-95-4	
Manganese, Dissolved	<0.33	ug/L	5.0	0.33	1	03/03/17 13:52	03/06/17 08:04	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 13:52	03/06/17 08:04	7440-02-0	
Potassium, Dissolved	4630	ug/L	2500	26.1	1	03/03/17 13:52	03/06/17 08:04	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 13:52	03/06/17 08:04	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 13:52	03/06/17 08:04	7440-22-4	
Sodium, Dissolved	14000	ug/L	1000	12.0	1	03/03/17 13:52	03/06/17 08:04	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 13:52	03/06/17 08:04	7440-28-0	
Vanadium, Dissolved	18.0	ug/L	15.0	0.39	1	03/03/17 13:52	03/06/17 08:04	7440-62-2	
Zinc, Dissolved	14.8J	ug/L	20.0	1.4	1	03/03/17 13:52	03/06/17 08:04	7440-66-6	B
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 14:51	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	161	mg/L	5.0	1.4	1		03/11/17 12:51		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	261	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/03/17 16:55	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	3.1	mg/L	1.2	0.10	1		03/02/17 17:32	16887-00-6	
Nitrate as N	1.1	mg/L	0.10	0.013	1		03/02/17 17:32	14797-55-8	
Sulfate	5.9	mg/L	1.2	0.16	1		03/02/17 17:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Sample: WS5Influent-GW-030117 **Lab ID: 10380558004** Collected: 03/01/17 12:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.42J	mg/L	1.0	0.20	1		03/04/17 03:41	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

QC Batch: 462821 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 2530548 Matrix: Water
 Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/07/17 07:51	
Ethene	ug/L	<0.77	10.0	0.77	03/07/17 07:51	
Methane	ug/L	1.7J	10.0	0.49	03/07/17 07:51	

LABORATORY CONTROL SAMPLE & LCSD: 2530549 2530550

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	111	112	98	98	85-115	0	20	
Ethene	ug/L	106	105	104	99	98	85-115	0	20	
Methane	ug/L	60.7	59.0	59.2	97	98	85-115	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530552 2530553

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.87	114	114	176	161	155	142	30-150	9	20	M1
Ethene	ug/L	<0.77	106	106	159	146	150	138	30-150	9	20	
Methane	ug/L	1.7J	60.7	60.7	94.2	86.2	152	139	30-150	9	20	M1

SAMPLE DUPLICATE: 2530551

Parameter	Units	10380572001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	8.6J	8.7J		20	
Ethene	ug/L	2.4J	2.4J		20	
Methane	ug/L	78.6	77.4	2	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

QC Batch: 462506 Analysis Method: EPA 7470A
 QC Batch Method: EPA 7470A Analysis Description: 7470A Mercury Water Dissolved
 Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 2528988 Matrix: Water
 Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/14/17 14:39	

LABORATORY CONTROL SAMPLE: 2528989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528990 2528991

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.031	5	5	5.2	4.7	105	95	80-120	10	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

QC Batch: 462430 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 2528598 Matrix: Water
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/06/17 07:29	
Antimony, Dissolved	ug/L	2.6J	20.0	2.5	03/06/17 07:29	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/06/17 07:29	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/06/17 07:29	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/06/17 07:29	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/06/17 07:29	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/06/17 07:29	
Chromium, Dissolved	ug/L	5.8J	10.0	2.0	03/06/17 07:29	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/06/17 07:29	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/06/17 07:29	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/06/17 07:29	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/06/17 07:29	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/06/17 07:29	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/06/17 07:29	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/06/17 07:29	
Potassium, Dissolved	ug/L	71.8J	2500	26.1	03/06/17 07:29	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/06/17 07:29	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/06/17 07:29	
Sodium, Dissolved	ug/L	51.5J	1000	12.0	03/06/17 07:29	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/06/17 07:29	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/06/17 07:29	
Zinc, Dissolved	ug/L	5.8J	20.0	1.4	03/06/17 07:29	

LABORATORY CONTROL SAMPLE: 2528599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20200	101	80-120	
Antimony, Dissolved	ug/L	1000	1010	101	80-120	
Arsenic, Dissolved	ug/L	1000	1030	103	80-120	
Barium, Dissolved	ug/L	1000	998	100	80-120	
Beryllium, Dissolved	ug/L	1000	1020	102	80-120	
Cadmium, Dissolved	ug/L	1000	997	100	80-120	
Calcium, Dissolved	ug/L	20000	19300	97	80-120	
Chromium, Dissolved	ug/L	1000	988	99	80-120	
Cobalt, Dissolved	ug/L	1000	983	98	80-120	
Copper, Dissolved	ug/L	1000	947	95	80-120	
Iron, Dissolved	ug/L	20000	19700	98	80-120	
Lead, Dissolved	ug/L	1000	982	98	80-120	
Magnesium, Dissolved	ug/L	20000	19600	98	80-120	
Manganese, Dissolved	ug/L	1000	994	99	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

LABORATORY CONTROL SAMPLE: 2528599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1000	100	80-120	
Potassium, Dissolved	ug/L	20000	19400	97	80-120	
Selenium, Dissolved	ug/L	1000	1060	106	80-120	
Silver, Dissolved	ug/L	500	485	97	80-120	
Sodium, Dissolved	ug/L	20000	18700	93	80-120	
Thallium, Dissolved	ug/L	1000	1000	100	80-120	
Vanadium, Dissolved	ug/L	1000	957	96	80-120	
Zinc, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528600 2528601

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380558001 Result	Spike Conc.	Spike Conc.	MS Result							
Aluminum, Dissolved	ug/L	1540	20000	20000	23500	24000	110	112	75-125	2	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	1060	1080	106	108	75-125	2	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1090	1110	108	111	75-125	3	20	
Barium, Dissolved	ug/L	77.8	1000	1000	1120	1140	104	106	75-125	2	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1080	1100	108	110	75-125	2	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	1040	1060	104	106	75-125	2	20	
Calcium, Dissolved	ug/L	63600	20000	20000	86200	86300	113	113	75-125	0	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	1030	1040	103	104	75-125	2	20	
Cobalt, Dissolved	ug/L	2.0J	1000	1000	1000	1020	100	102	75-125	2	20	
Copper, Dissolved	ug/L	0.99J	1000	1000	1000	1030	100	103	75-125	2	20	
Iron, Dissolved	ug/L	3010	20000	20000	23600	24000	103	105	75-125	2	20	
Lead, Dissolved	ug/L	3.0J	1000	1000	1000	1020	100	102	75-125	2	20	
Magnesium, Dissolved	ug/L	14300	20000	20000	35300	35800	105	107	75-125	1	20	
Manganese, Dissolved	ug/L	111	1000	1000	1140	1160	103	105	75-125	2	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	1010	1030	101	103	75-125	2	20	
Potassium, Dissolved	ug/L	1450J	20000	20000	22400	22800	105	107	75-125	2	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1090	1110	109	111	75-125	2	20	
Silver, Dissolved	ug/L	<0.28	500	500	510	519	102	104	75-125	2	20	
Sodium, Dissolved	ug/L	12900	20000	20000	33000	33500	101	103	75-125	1	20	
Thallium, Dissolved	ug/L	5.9J	1000	1000	1030	1050	102	105	75-125	3	20	
Vanadium, Dissolved	ug/L	7.7J	1000	1000	1010	1030	101	102	75-125	2	20	
Zinc, Dissolved	ug/L	19.4J	1000	1000	1050	1070	103	105	75-125	2	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

QC Batch: 462413 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380558001

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380558001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 13:35	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 13:35	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 13:35	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 13:35	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 13:35	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 13:35	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 13:35	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 13:35	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 13:35	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 13:35	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 13:35	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 13:35	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 13:35	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 13:35	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 13:35	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 13:35	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 13:35	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 13:35	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 13:35	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 13:35	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 13:35	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 13:35	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 13:35	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 13:35	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 13:35	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 13:35	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 13:35	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 13:35	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 13:35	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 13:35	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 13:35	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 13:35	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380558001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 13:35	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 13:35	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 13:35	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 13:35	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 13:35	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 13:35	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 13:35	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 13:35	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 13:35	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 13:35	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 13:35	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 13:35	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 13:35	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 13:35	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 13:35	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 13:35	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 13:35	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 13:35	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 13:35	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 13:35	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 13:35	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 13:35	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 13:35	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 13:35	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 13:35	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 13:35	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 13:35	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 13:35	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 13:35	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/03/17 13:35	
4-Bromofluorobenzene (S)	%	104	75-125		03/03/17 13:35	
Toluene-d8 (S)	%	104	75-125		03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

LABORATORY CONTROL SAMPLE & LCSD: 2528545		2528546									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	19.8	95	99	75-125	4	30		
1,1,1-Trichloroethane	ug/L	20	20.1	20.2	101	101	74-125	0	30		
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	21.3	97	107	67-131	10	30		
1,1,2-Trichloroethane	ug/L	20	19.9	20.5	99	103	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	18.1	92	90	75-125	1	30		
1,1-Dichloroethane	ug/L	20	22.2	22.7	111	113	74-125	2	30		
1,1-Dichloroethene	ug/L	20	19.4	19.1	97	96	74-125	1	30		
1,1-Dichloropropene	ug/L	20	19.9	20.5	99	103	74-125	3	30		
1,2,3-Trichlorobenzene	ug/L	20	16.7	18.4	83	92	63-131	10	30		
1,2,3-Trichloropropane	ug/L	20	19.4	21.1	97	105	73-125	8	30		
1,2,4-Trichlorobenzene	ug/L	20	15.5	16.7	77	83	66-126	8	30		
1,2,4-Trimethylbenzene	ug/L	20	17.2	18.3	86	91	74-129	6	30		
1,2-Dibromo-3-chloropropane	ug/L	50	37.9	44.0	76	88	54-129	15	30		
1,2-Dibromoethane (EDB)	ug/L	20	18.9	20.3	94	101	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	17.3	18.6	87	93	75-125	7	30		
1,2-Dichloroethane	ug/L	20	18.8	19.2	94	96	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	39.5	40.0	99	100	75-125	1	30		
1,2-Dichloropropane	ug/L	20	20.6	21.4	103	107	75-125	4	30		
1,3,5-Trimethylbenzene	ug/L	20	18.2	19.2	91	96	73-127	6	30		
1,3-Dichlorobenzene	ug/L	20	17.6	18.6	88	93	75-125	5	30		
1,3-Dichloropropane	ug/L	20	20.2	21.1	101	105	69-125	4	30		
1,4-Dichlorobenzene	ug/L	20	17.4	18.4	87	92	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	308	396	77	99	70-130	25	30		
2,2,4-Trimethylpentane	ug/L	20	18.5	19.0	92	95	67-138	3	30		
2,2-Dichloropropane	ug/L	20	20.7	20.6	104	103	69-125	1	30		
2-Butanone (MEK)	ug/L	100	94.9	105	95	105	48-145	10	30		
2-Chlorotoluene	ug/L	20	20.4	20.6	102	103	74-125	1	30		
2-Hexanone	ug/L	100	101	114	101	114	63-135	12	30		
4-Chlorotoluene	ug/L	20	19.1	20.2	96	101	73-125	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	115	104	115	53-138	10	30		
Acetone	ug/L	100	96.1	117	96	117	70-142	19	30		
Acrolein	ug/L	200	189	208	94	104	44-150	10	30		
Acrylonitrile	ug/L	200	208	226	104	113	68-125	8	30		
Benzene	ug/L	20	20.1	20.0	100	100	65-125	0	30		
Bromobenzene	ug/L	20	17.9	19.0	90	95	75-125	6	30		
Bromochloromethane	ug/L	20	19.3	19.9	96	100	75-125	3	30		
Bromodichloromethane	ug/L	20	19.4	20.1	97	100	73-125	3	30		
Bromoform	ug/L	20	16.8	17.7	84	88	69-125	5	30		
Bromomethane	ug/L	20	13.3	15.4	66	77	40-136	15	30		
Carbon disulfide	ug/L	20	18.4	18.3	92	92	36-150	1	30		
Carbon tetrachloride	ug/L	20	18.9	19.3	95	97	70-125	2	30		
Chlorobenzene	ug/L	20	18.5	19.1	93	95	75-125	3	30		
Chloroethane	ug/L	20	23.4	22.7	117	114	67-141	3	30		
Chloroform	ug/L	20	18.8	19.0	94	95	75-125	1	30		
Chloromethane	ug/L	20	20.0	20.7	100	104	50-150	4	30		
cis-1,2-Dichloroethene	ug/L	20	19.6	20.1	98	100	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	20	20.3	21.4	102	107	75-125	5	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

LABORATORY CONTROL SAMPLE & LCSD:		2528545		2528546							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.4	19.4	92	97	75-125	5	30		
Dibromomethane	ug/L	20	18.2	19.0	91	95	75-129	4	30		
Dichlorodifluoromethane	ug/L	20	19.4	19.0	97	95	59-135	2	30		
Dichlorofluoromethane	ug/L	20	20.6	20.6	103	103	74-130	0	30		
Diisopropyl ether	ug/L	20	20.2	21.7	101	109	71-125	7	30		
Ethyl-tert-butyl ether	ug/L	20	20.1	21.6	101	108	70-130	7	30		
Ethylbenzene	ug/L	20	18.7	19.3	94	97	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	16.9	17.5	84	88	72-126	4	30		
Isopropylbenzene (Cumene)	ug/L	20	16.9	17.4	84	87	71-136	3	30		
m&p-Xylene	ug/L	40	38.6	39.2	96	98	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.4	20.6	97	103	73-127	6	30		
Methylene Chloride	ug/L	20	20.2	20.9	101	105	68-128	4	30		
n-Butylbenzene	ug/L	20	17.1	17.9	85	89	70-126	4	30		
n-Propylbenzene	ug/L	20	18.9	19.9	94	100	67-131	5	30		
Naphthalene	ug/L	20	13.0	14.8	65	74	52-134	14	30		
o-Xylene	ug/L	20	17.6	18.1	88	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	17.6	18.2	88	91	74-125	3	30		
sec-Butylbenzene	ug/L	20	17.2	18.2	86	91	69-134	6	30		
Styrene	ug/L	20	18.0	18.9	90	94	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.9	20.0	95	100	70-130	6	30		
tert-Butyl Alcohol	ug/L	200	170	222	85	111	66-128	26	30		
tert-Butylbenzene	ug/L	20	16.1	17.3	81	87	71-128	7	30		
Tetrachloroethene	ug/L	20	17.1	17.4	85	87	74-125	2	30		
Tetrahydrofuran	ug/L	200	174	211	87	106	64-142	20	30		
Toluene	ug/L	20	18.3	18.7	92	94	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	19.9	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	21.1	103	106	75-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	51.3	92	103	54-133	11	30		
Trichloroethene	ug/L	20	19.6	19.7	98	98	75-125	1	30		
Trichlorofluoromethane	ug/L	20	19.4	19.1	97	96	75-126	2	30		
Vinyl acetate	ug/L	20	22.9	24.4	115	122	67-126	6	30		
Vinyl chloride	ug/L	20	22.0	22.2	110	111	72-125	1	30		
Xylene (Total)	ug/L	60	56.1	57.3	94	96	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				101	99	75-125				
4-Bromofluorobenzene (S)	%				99	102	75-125				
Toluene-d8 (S)	%				100	100	75-125				

MATRIX SPIKE SAMPLE:		2528547		10380479001							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	18.7	93	75-127					
1,1,1-Trichloroethane	ug/L	<0.057	20	20.4	102	66-142					
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.4	102	70-131					
1,1,2-Trichloroethane	ug/L	<0.064	20	19.5	98	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.4	107	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	22.3	111	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.4	102	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	21.3	106	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.2	91	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.5	103	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	16.6	83	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	17.2	86	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.7	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.1	96	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	17.6	88	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	18.2	91	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	39.9	100	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.6	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	17.9	89	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	17.8	89	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.0	100	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	17.2	86	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	361	90	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	22.1	110	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.3	106	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	97.1	97	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.5	97	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.0	95	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	110	110	60-147	
Acetone	ug/L	<0.64	100	96.5	97	59-150	
Acrolein	ug/L	<2.1	200	280	140	30-150	
Acrylonitrile	ug/L	<0.49	200	210	105	41-148	
Benzene	ug/L	<0.042	20	19.5	97	61-138	
Bromobenzene	ug/L	<0.087	20	18.1	90	74-130	
Bromochloromethane	ug/L	<0.082	20	19.0	95	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	97	66-136	
Bromoform	ug/L	<0.11	20	17.1	86	71-125	
Bromomethane	ug/L	<0.20	20	16.8	84	30-150	
Carbon disulfide	ug/L	<0.20	20	19.3	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	19.7	99	68-140	
Chlorobenzene	ug/L	<0.066	20	18.4	92	75-132	
Chloroethane	ug/L	<0.12	20	24.4	122	55-150	
Chloroform	ug/L	<0.21	20	17.9	90	64-139	
Chloromethane	ug/L	<0.080	20	22.4	112	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.6	98	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.0	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.8	94	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	23.8	119	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.6	108	58-150	
Diisopropyl ether	ug/L	<0.050	20	20.8	104	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.0	100	30-140	
Ethylbenzene	ug/L	<0.075	20	18.7	93	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	19.6	98	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	16.5	83	65-146	
m&p-Xylene	ug/L	<0.11	40	37.8	95	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.7	98	63-134	
Methylene Chloride	ug/L	<0.097	20	20.1	100	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.1	91	67-134	
n-Propylbenzene	ug/L	<0.049	20	18.9	94	62-142	
Naphthalene	ug/L	<0.064	20	14.0	70	41-150	
o-Xylene	ug/L	<0.044	20	17.6	88	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	17.8	89	64-137	
sec-Butylbenzene	ug/L	<0.094	20	17.8	89	65-142	
Styrene	ug/L	<0.056	20	17.7	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.3	96	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	198	99	59-138	
tert-Butylbenzene	ug/L	<0.051	20	16.7	84	69-135	
Tetrachloroethene	ug/L	<0.13	20	17.5	87	62-142	
Tetrahydrofuran	ug/L	<1.5	200	187	94	55-150	
Toluene	ug/L	<0.059	20	18.4	92	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.3	102	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.7	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50.1	100	31-150	
Trichloroethene	ug/L	<0.044	20	19.8	99	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	22.2	111	63-150	
Vinyl acetate	ug/L	<0.12	20	23.1	116	30-150	
Vinyl chloride	ug/L	<0.098	20	24.8	124	58-150	
Xylene (Total)	ug/L	<0.15	60	55.5	92	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.6	19.0	93	95	75-127	2	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	20.9	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	19.8	19.8	99	99	70-131	0	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.9	19.2	94	96	75-128	2	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.2	21.4	106	107	54-150	1	30
1,1-Dichloroethane	ug/L	<0.055	20	20	23.2	22.9	116	114	58-147	1	30
1,1-Dichloroethene	ug/L	<0.069	20	20	20.4	20.5	102	102	49-150	0	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.3	21.7	106	108	58-147	2	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	16.4	17.6	82	88	57-139	7	30

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

Parameter	Units	10380722001		MS		MSD		MS		MSD		% Rec	Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec							
MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827 2528828																
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.2	19.9	96	99	71-127	3	30					
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	15.3	16.3	77	81	55-136	6	30					
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.6	86	88	67-138	2	30					
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	40.0	41.0	80	82	63-136	2	30					
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.9	19.1	94	96	74-125	1	30					
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.5	17.9	88	89	75-125	2	30					
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	18.6	94	93	63-133	2	30					
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.4	40.6	99	101	55-146	3	30					
1,2-Dichloropropane	ug/L	<0.066	20	20	20.5	19.7	102	99	63-138	4	30					
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.3	18.7	91	93	69-136	2	30					
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.3	18.0	87	90	75-125	4	30					
1,3-Dichloropropane	ug/L	<0.059	20	20	19.8	20.2	99	101	65-135	2	30					
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.2	17.3	86	86	70-126	0	30					
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	337	361	84	90	54-145	7	30					
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	19.1	20.5	96	103	30-150	7	30					
2,2-Dichloropropane	ug/L	<0.096	20	20	18.1	17.9	90	90	39-148	1	30					
2-Butanone (MEK)	ug/L	<1.1	100	100	95.5	95.0	95	95	50-144	0	30					
2-Chlorotoluene	ug/L	<0.084	20	20	19.7	20.6	99	103	71-135	4	30					
2-Hexanone	ug/L	<0.19	100	100	106	108	106	108	43-150	2	30					
4-Chlorotoluene	ug/L	<0.048	20	20	19.2	19.4	96	97	71-131	1	30					
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	107	108	107	108	60-147	1	30					
Acetone	ug/L	<0.64	100	100	98.9	97.6	99	98	59-150	1	30					
Acrolein	ug/L	<2.1	200	200	255	254	128	127	30-150	1	30					
Acrylonitrile	ug/L	<0.49	200	200	214	210	107	105	41-148	2	30					
Benzene	ug/L	<0.042	20	20	19.8	20.1	99	100	61-138	1	30					
Bromobenzene	ug/L	<0.087	20	20	18.1	18.3	91	91	74-130	1	30					
Bromochloromethane	ug/L	<0.082	20	20	19.2	19.0	96	95	65-137	1	30					
Bromodichloromethane	ug/L	<0.068	20	20	19.1	18.8	96	94	66-136	2	30					
Bromoform	ug/L	<0.11	20	20	16.0	16.6	80	83	71-125	4	30					
Bromomethane	ug/L	<0.20	20	20	15.6	18.5	78	93	30-150	17	30					
Carbon disulfide	ug/L	<0.20	20	20	18.6	18.8	93	94	30-150	1	30					
Carbon tetrachloride	ug/L	2.5	20	20	22.4	22.9	100	102	68-140	2	30					
Chlorobenzene	ug/L	<0.066	20	20	18.6	18.6	93	93	75-132	0	30					
Chloroethane	ug/L	<0.12	20	20	24.1	25.0	120	125	55-150	4	30					
Chloroform	ug/L	0.35J	20	20	18.7	19.1	92	94	64-139	2	30					
Chloromethane	ug/L	<0.080	20	20	23.7	23.7	119	119	73-150	0	30					
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.7	20.0	99	100	62-138	1	30					
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.3	17.9	92	90	70-125	2	30					
Dibromochloromethane	ug/L	<0.048	20	20	18.1	18.6	90	93	74-125	3	30					
Dibromomethane	ug/L	<0.14	20	20	17.7	17.0	88	85	66-138	4	30					
Dichlorodifluoromethane	ug/L	<0.075	20	20	22.7	23.6	114	118	53-150	4	30					
Dichlorofluoromethane	ug/L	<0.054	20	20	21.2	22.1	106	111	58-150	4	30					
Diisopropyl ether	ug/L	<0.050	20	20	21.3	21.0	107	105	50-139	2	30					
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.6	20.6	103	103	30-140	0	30					

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Ethylbenzene	ug/L	<0.075	20	20	19.0	19.0	95	95	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	16.3	18.4	81	92	63-139	12	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.0	17.2	85	86	65-146	1	30	
m&p-Xylene	ug/L	<0.11	40	40	38.2	38.7	96	97	72-142	1	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.6	19.9	98	99	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	20.3	19.6	101	98	49-143	4	30	
n-Butylbenzene	ug/L	<0.16	20	20	16.6	17.7	83	89	67-134	7	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.2	95	96	62-142	2	30	
Naphthalene	ug/L	<0.064	20	20	13.8	14.7	69	73	41-150	6	30	
o-Xylene	ug/L	<0.044	20	20	17.7	18.2	89	91	66-138	2	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	16.5	17.1	83	86	64-137	4	30	
sec-Butylbenzene	ug/L	<0.094	20	20	17.4	17.9	87	89	65-142	3	30	
Styrene	ug/L	<0.056	20	20	16.9	16.3	84	81	61-142	3	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.1	19.3	96	96	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	202	207	101	103	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.5	17.1	82	85	69-135	4	30	
Tetrachloroethene	ug/L	<0.13	20	20	16.9	17.4	84	87	62-142	3	30	
Tetrahydrofuran	ug/L	<1.5	200	200	186	188	93	94	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.1	18.3	91	92	66-132	1	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.7	20.6	99	103	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.6	20.0	98	100	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	42.9	43.8	86	88	31-150	2	30	
Trichloroethene	ug/L	<0.044	20	20	19.6	20.3	98	101	64-142	3	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	22.5	108	113	63-150	4	30	
Vinyl acetate	ug/L	<0.12	20	20	19.4	18.8	97	94	30-150	3	30	
Vinyl chloride	ug/L	<0.098	20	20	24.0	25.2	120	126	58-150	5	30	
Xylene (Total)	ug/L	<0.15	60	60	56.0	56.9	93	95	70-140	2	30	
1,2-Dichloroethane-d4 (S)	%						102	101	75-125			
4-Bromofluorobenzene (S)	%						103	104	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

QC Batch: 462154

Analysis Method: Hach 10360 Rev 1.1

QC Batch Method: Hach 10360

Analysis Description: Hach 10360 Rev 1.1, BOD

Associated Lab Samples: 10380558001

METHOD BLANK: 2527040

Matrix: Water

Associated Lab Samples: 10380558001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
BOD, 5 day	mg/L	<1.0	2.0	1.0	03/07/17 13:21	B4,B6

LABORATORY CONTROL SAMPLE: 2527042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	124	62	85-115	B4,B6

SAMPLE DUPLICATE: 2527043

Parameter	Units	10380325001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	350	336	4	20	B4,B6

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

QC Batch: 463569 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 2534756 Matrix: Water
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	03/11/17 11:13	

LABORATORY CONTROL SAMPLE & LCSD: 2534757 2534758

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	38.7	38.6	97	96	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534759 2534760

Parameter	Units	10380530003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	100	40	40	141	138	103	93	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534761 2534762

Parameter	Units	10380679006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	128	40	40	165	166	92	93	80-120	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

QC Batch: 462565

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 2529406

Matrix: Water

Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	17.0	10.0	5.0	03/04/17 18:38	

LABORATORY CONTROL SAMPLE: 2529407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 2529408

Parameter	Units	10380466001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	238	249	5	10	

SAMPLE DUPLICATE: 2529409

Parameter	Units	10380356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	255	0	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

QC Batch: 75738

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 319556

Matrix: Water

Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/03/17 16:30	

LABORATORY CONTROL SAMPLE: 319557

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 319559

Parameter	Units	2051086001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.084	42	75-125	M1

SAMPLE DUPLICATE: 319558

Parameter	Units	2051086001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

QC Batch: 462271 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 2527813 Matrix: Water
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.27J	1.2	0.10	03/02/17 15:02	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/02/17 15:02	
Sulfate	mg/L	<0.16	1.2	0.16	03/02/17 15:02	

LABORATORY CONTROL SAMPLE: 2527814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.2	98	90-110	
Nitrate as N	mg/L	1	0.99	99	90-110	
Sulfate	mg/L	12.5	11.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2527815 2527816

Parameter	Units	10380558001		2527815		2527816		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Chloride	mg/L	28.0	62.5	62.5	90.3	88.4	100	96	90-110	2	20		
Nitrate as N	mg/L	13.2	5	5	17.8	17.7	91	90	90-110	0	20		
Sulfate	mg/L	61.2	62.5	62.5	124	121	100	96	90-110	2	20		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

QC Batch: 462634 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 10380558001

METHOD BLANK: 2529827 Matrix: Water
Associated Lab Samples: 10380558001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	<5.4	50.0	5.4	03/07/17 13:45	

LABORATORY CONTROL SAMPLE: 2529828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	307	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529829 2529830

Parameter	Units	10380397001		2529829		2529830		% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result				
Chemical Oxygen Demand	mg/L	81900 ug/L	250	250	175	241	37	64	90-110	32	20 M1,R1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

QC Batch: 107392 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

METHOD BLANK: 425475 Matrix: Water
Associated Lab Samples: 10380558001, 10380558002, 10380558003, 10380558004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/03/17 23:30	

LABORATORY CONTROL SAMPLE: 425476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425477 425478

Parameter	Units	10379459001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Total Organic Carbon	mg/L	4.0	25	25	29.6	29.8	102	103	80-120	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 425479 425480

Parameter	Units	10380466001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Total Organic Carbon	mg/L	0.55J	25	25	26.3	26.5	103	104	80-120	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380558

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.
B4 The glucose/glutamic acid standard exceeded the range of 198 plus or minus 30.5 mg/L.
B6 The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.
M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380558

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380558001	MW9S-GW-030117	RSK 175	462821		
10380558002	MW7S-GW-030117	RSK 175	462821		
10380558003	MW5D-GW-030117	RSK 175	462821		
10380558004	WS5Influent-GW-030117	RSK 175	462821		
10380558001	MW9S-GW-030117	EPA 3010	462430	6010C Met	462504
10380558002	MW7S-GW-030117	EPA 3010	462430	6010C Met	462504
10380558003	MW5D-GW-030117	EPA 3010	462430	6010C Met	462504
10380558004	WS5Influent-GW-030117	EPA 3010	462430	6010C Met	462504
10380558001	MW9S-GW-030117	EPA 7470A	462506	EPA 7470A	462761
10380558002	MW7S-GW-030117	EPA 7470A	462506	EPA 7470A	462761
10380558003	MW5D-GW-030117	EPA 7470A	462506	EPA 7470A	462761
10380558004	WS5Influent-GW-030117	EPA 7470A	462506	EPA 7470A	462761
10380558001	MW9S-GW-030117	EPA 8260B	462413		
10380558001	MW9S-GW-030117	Hach 10360	462154	Hach 10360 Rev 1.1	462333
10380558001	MW9S-GW-030117	SM 2320B	463569		
10380558002	MW7S-GW-030117	SM 2320B	463569		
10380558003	MW5D-GW-030117	SM 2320B	463569		
10380558004	WS5Influent-GW-030117	SM 2320B	463569		
10380558001	MW9S-GW-030117	SM 2540C	462565		
10380558002	MW7S-GW-030117	SM 2540C	462565		
10380558003	MW5D-GW-030117	SM 2540C	462565		
10380558004	WS5Influent-GW-030117	SM 2540C	462565		
10380558001	MW9S-GW-030117	SM 4500-S-2 D	75738		
10380558002	MW7S-GW-030117	SM 4500-S-2 D	75738		
10380558003	MW5D-GW-030117	SM 4500-S-2 D	75738		
10380558004	WS5Influent-GW-030117	SM 4500-S-2 D	75738		
10380558001	MW9S-GW-030117	EPA 300.0	462271		
10380558002	MW7S-GW-030117	EPA 300.0	462271		
10380558003	MW5D-GW-030117	EPA 300.0	462271		
10380558004	WS5Influent-GW-030117	EPA 300.0	462271		
10380558001	MW9S-GW-030117	EPA 410.4	462634	EPA 410.4	462918
10380558001	MW9S-GW-030117	SM 5310C	107392		
10380558002	MW7S-GW-030117	SM 5310C	107392		
10380558003	MW5D-GW-030117	SM 5310C	107392		
10380558004	WS5Influent-GW-030117	SM 5310C	107392		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt Form - ESI
Document No.:
F-MN-L-210-rev.22

Document Revised: 21Dec2016
Page 1 of 2
Issuing Authority:
Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill Project #: _____

WO# : 10380558

10380558

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeeDee Other: _____
 Tracking Number: 7096 3371 0314
 Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 4.1 Cooler Temp Corrected (°C): 4.2 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: +0.1 Date and Initials of Person Examining Contents: KAC 3-2-17
 USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	Yes	No	N/A	COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		6.
Rush Turn Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		8.
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		9.
-Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> N/A	Sample # <u>1-42+</u> <u>13+</u>
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> N/A	14. <u>RSK needs h.s.</u>
3 Trip Blanks Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____

Field Data Required? Yes No

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>10:15</u>	Temp: <u>4.1</u>	Corrected Temp: <u>4.2</u>
Time: <u>10:35</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS Date: 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 1283624

PM: CLJ Due Date: 03/16/17
 CLIENT: PACE MPLS

Workorder: 10380558

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/2/2017

Results Requested By: 3/16/2017

Report To		Subcontract To					Requested Analysis												LAB USE ONLY												
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426		Pace Analytical Virginia MN 315 Chestnut Street Virginia, MN 55792 Phone (218)742-1042					5632354 / 5310 TOC																								
Item		Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix													Preserved Containers												
																			H2SO4												
1	MW9S-GW-030117	PS	3/1/2017 08:15	10380558001	Water	3																									061
2	MW7S-GW-030117	PS	3/1/2017 09:25	10380558002	Water	3																									002
3	MW5D-GW-030117	PS	3/1/2017 11:40	10380558003	Water	3													003												
4	WS5Influent-GW-030117	PS	3/1/2017 12:15	10380558004	Water	3													004												
5																															
Transfers												Comments																			
Released By	Date/Time	Received By	Date/Time																												
<i>[Signature]</i> Pace MN	3/2/17 1400	<i>[Signature]</i>	3/2/17 1812																												
<i>[Signature]</i>	3/2/17 2130	<i>[Signature]</i>	3-3-17 MT																												
<i>[Signature]</i>																															
Cooler Temperature on Receipt <u>2.5</u> °C				Custody Seal <input checked="" type="checkbox"/> or N				Received on Ice <input checked="" type="checkbox"/> or N				Samples Intact <input checked="" type="checkbox"/> or N																			

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



Sample Condition
Upon Receipt

Client Name: Pace - MN

Project #: WO# : 1283624
 PM: CLJ Due Date: 03/16/17
 CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Other:
 Commercial Pace

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: Hard Box Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.2 Cooler Temp Corrected °C: 2.5 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: JPC 3/21/17

Comments: WT 3-3-17

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Melissa Woods Date: 3/16/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 2051165

PM: ADC

Due Date: 03/16/17

CLIENT: PASI-MINN



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Recd

Project # _____

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and initials of person examining contents: 3-3-17 *[Signature]*

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



March 21, 2017

Jennifer Gross
Pace Analytical Services, Inc.
940 South Harney Street
Seattle, WA 98108

RE: **1497 UPRR_FREEMAN / 10380558**

Pace Workorder: 21897

Dear Jennifer Gross:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, March 03, 2017. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 03/21/2017
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email PAESfeedback@pacelabs.com.

Total Number of Pages ____



CERTIFICATE OF ANALYSIS

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LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water and Solid & Hazardous Waste
Accreditor:	West Virginia Department of Environmental Protection, Division of Water and Waste Management
Accreditation ID:	395
Scope:	Non-Potable Water
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water; Solid and Chemical Materials
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water; Solid and Hazardous Waste
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).



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SAMPLE SUMMARY

Workorder: 21897 1497 UPRR_FREEMAN / 10380558

Lab ID	Sample ID	Matrix	Date Collected	Date Received
218970001	MW9S-GW-030117	Water	3/1/2017 08:15	3/3/2017 11:00



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ANALYTICAL RESULTS

Workorder: 21897 1497 UPRR_FREEMAN / 10380558

Lab ID: **218970001** Date Received: 3/3/2017 11:00 Matrix: Water
 Sample ID: **MW9S-GW-030117** Date Collected: 3/1/2017 08:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
------------	---------	-------	-----	-----	----	----------	----	------------

Compound Specific Isotopic - PAES

Analysis Desc: AM24 Analytical Method: AM24

Carbon 13 Isotope	Complete				1	3/16/2016 00:00	CS	n
-------------------	-----------------	--	--	--	---	-----------------	----	---



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ANALYTICAL RESULTS QUALIFIERS

Workorder: 21897 1497 UPRR_FREEMAN / 10380558

DEFINITIONS/QUALIFIERS

- MDL Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
- PQL Practical Quantitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
- ND Not detected at or above reporting limit.
- DF Dilution Factor.
- S Surrogate.
- RPD Relative Percent Difference.
- % Rec Percent Recovery.
- U Indicates the compound was analyzed for, but not detected at or above the noted concentration.
- J Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
-
- n The laboratory does not hold NELAP/TNI accreditation for this method or analyte.



CERTIFICATE OF ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 21897 1497 UPRR_FREEMAN / 10380558

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
218970001	MW9S-GW-030117			AM24	CSIA/1555



CERTIFICATE OF ANALYSIS

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Client: Pace Analytical Services
 596 Industry Drive, Suite 602
 Tulwila, WA 98188
 Project: 1497 UPRR Freeman
 Project # 10380558
 Report to: Jennifer Gross
 jennifer.gross@pacelabs.com

Pace Analytical Energy Services
 220 William Pitt Way
 Pittsburgh, PA 15238
 412-826-5245
 www.microseeps.com

Report of Isotope Analysis

Water samples for $\delta^{13}\text{C}$ (‰, PDB) isotopic ratios

Lab Sample Number	Client's Sample ID	$\delta^{13}\text{C}$ CT
218970001	MW9S-GW-030117	-46.00

ND: Ratio Not Determined
 N/A: Sample Not Analyzed

CT: Carbon Tetrachloride

Method: Compound Specific Isotope Analysis for ^{13}C and ^2H by GC-IRMS, for ^{37}Cl by GC-qMS

Quality Control STDs	$\delta^{13}\text{C}$ CT
QC-1	-50.00
QC-2	-49.96
Mean	-49.98
Analytical Precision (1σ)	0.03

Pace Analytical Energy Services
 220 William Pitt Way
 Pittsburgh, PA 15238
 phone: 412-826-5245
 Project receipt da

3/3/2017

CSIA Report

Carbon

Report date: 17-Mar-17
 21897
 Pace Analytical Services
 Client Project Name: 1497 UPRR Freeman
 Client Project #: 10380558

Carbon Tetrachloride		Concentration			CSIA (Carbon)						
		(ug/l)			Area		Co-elution	Analysis	Date	Delta (‰)	
Lab ID	Client ID	Sample	PQL	Date	Sample	PQL					
218970001	MW9S-GW-030117	521	2.5	3/6/17	4.60	1	No	8375	3/16/17	-46.00	
Duplicate	MW9S-GW-030117	-	-	-	4.38	1	No	8376	3/16/17	-46.16	
Blank	-	0	-	-	<1 (U)	1	No	8369	3/16/17	-	
LCS_Lo	-	50	-	-	1.58	1	No	8373	3/16/17	-50.00	
LCS_Hi	-	100	-	-	3.40	1	No	8371	3/16/17	-49.96	
LCS acceptance range									-50.95	<=>	-49.95

Method	8260B	SOP-PAE-CSIA-004	SOP-PAE-CSIA-004
Units	ug/l	Vs	‰, VPDB
Analyst	PACE-MN	CJS	CJS

Pace Analytical Energy Services
 220 William Pitt Way
 Pittsburgh, PA 15238
 phone: 412-826-5245
 Project receipt da

3/3/2017

CSIA Report Carbon

Report date: 17-Mar-17
 21897
 Pace Analytical Services
 Client Project Name: 1497 UPRR Freeman
 Client Project #: 10380558

1CP (Surr.)		Sample Collection	CSIA (Carbon)						
			Area	Dilution	PQL	Co-elution	Analysis	Date	Delta (‰)
Lab ID	Client ID								
218970001	MW9S-GW-030117	03/01/17	3.29	5	1	No	8375	03/16/17	-27.95
Duplicate	MW9S-GW-030117	03/01/17	3.23	5	1	No	8376	03/16/17	-27.99
Blank	-	-	2.89	1	1	No	8369	03/16/17	-27.72
LCS_Lo	-	-	3.38	1	1	No	8373	03/16/17	-27.97
LCS_Hi	-	-	3.33	1	1	No	8371	03/16/17	-28.01
Surrogate acceptance range							-28.69	<=>	-27.69

Method		AM-24-AR_C	AM-24-DL_C
Units		Vs	‰, VPDB
Analyst		CJS	CJS

Case Narrative: The blank, LCS's, duplicate and surrogates were all close to or within the acceptance range and the data is reported as valid and representative of the samples as received.

Cooler Receipt Form

Client Name: Pace Project: 1497 UPRR Freeman Lab Work Order: 21897

A. Shipping/Container Information (circle appropriate response)

Courier: FedEx UPS USPS Client Other: _____ Air bill Present: Yes No

Tracking Number: 7180 9265 3013

Custody Seal on Cooler/Box Present: Yes No Seals Intact: Yes No

Cooler/Box Packing Material: Bubble Wrap Absorbent Foam Other: _____

Type of Ice: Wet Blue None Ice Intact: Yes Melted

Cooler Temperature: 5.8°C Radiation Screened: Yes No Chain of Custody Present: Yes No

Comments: _____

B. Laboratory Assignment/Log-in (check appropriate response)

	YES	NO	N/A	Comment Reference non-Conformance
Chain of Custody properly filled out	✓			
Chain of Custody relinquished	✓			
Sampler Name & Signature on COC			✓	
Containers intact	✓			
Were samples in separate bags			✓	
Sample container labels match COC	✓			
Sample name/date and time collected	✓			
Sufficient volume provided	✓			
PAES containers used		✓		
Are containers properly preserved for the requested testing? (as labeled)	✓			
If an unknown preservation state, were containers checked? Exception: VOA's coliform			✓	If yes, see pH form.
Was volume for dissolved testing field filtered, as noted on the COC? Was volume received in a preserved container?			✓	

Comments: _____

Cooler contents examined/received by: LY Date: 3/3/17

Project Manager Review: [Signature] Date: 3/3/17

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

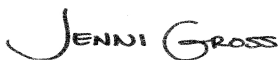
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380566001	MW9S-GW-030117	Water	03/01/17 08:15	03/02/17 09:45
10380566002	MW7S-GW-030117	Water	03/01/17 09:25	03/02/17 09:45
10380566003	MW5D-GW-030117	Water	03/01/17 11:40	03/02/17 09:45
10380566004	WS5Influent-GW-030117	Water	03/01/17 12:15	03/02/17 09:45
10380566005	WS5Effluent-GW-030117	Water	03/01/17 12:20	03/02/17 09:45
10380566006	Trip Blank	Water	03/01/17 08:00	03/02/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380566001	MW9S-GW-030117	EPA 8260B	DJB	83	PASI-M
10380566002	MW7S-GW-030117	EPA 8260B	DJB	83	PASI-M
10380566003	MW5D-GW-030117	EPA 8260B	DJB	83	PASI-M
10380566004	WS5Influent-GW-030117	EPA 8260B	DJB	83	PASI-M
10380566005	WS5Effluent-GW-030117	EPA 8260B	DJB	83	PASI-M
10380566006	Trip Blank	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380566001	MW9S-GW-030117					
EPA 8260B	Carbon disulfide	1.4	ug/L	1.0	03/03/17 06:25	
EPA 8260B	Carbon tetrachloride	540	ug/L	2.5	03/03/17 13:58	
EPA 8260B	Chloroform	74.4	ug/L	1.0	03/03/17 06:25	
10380566002	MW7S-GW-030117					
EPA 8260B	Carbon tetrachloride	1.5	ug/L	0.50	03/03/17 16:33	
10380566004	WS5Influent-GW-030117					
EPA 8260B	Carbon tetrachloride	9.2	ug/L	0.50	03/03/17 07:32	
EPA 8260B	Chloroform	0.46J	ug/L	1.0	03/03/17 07:32	
10380566005	WS5Effluent-GW-030117					
EPA 8260B	Carbon tetrachloride	0.32J	ug/L	0.50	03/03/17 07:54	
10380566006	Trip Blank					
EPA 8260B	Methylene Chloride	0.39J	ug/L	4.0	03/03/17 03:49	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

QC Batch: 462187

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2527140)
 - Bromomethane
- DUP (Lab ID: 2527144)
 - Bromomethane
- LCS (Lab ID: 2527141)
 - Bromomethane
- LCSD (Lab ID: 2527142)
 - Bromomethane
- MS (Lab ID: 2527143)
 - Bromomethane
- MW5D-GW-030117 (Lab ID: 10380566003)
 - Bromomethane
- MW9S-GW-030117 (Lab ID: 10380566001)
 - Bromomethane
- Trip Blank (Lab ID: 10380566006)
 - Bromomethane
- WS5Effluent-GW-030117 (Lab ID: 10380566005)
 - Bromomethane
- WS5Influent-GW-030117 (Lab ID: 10380566004)
 - Bromomethane

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462187

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: **MW9S-GW-030117** Lab ID: **10380566001** Collected: 03/01/17 08:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 06:25	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 06:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 06:25	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 06:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 06:25	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 06:25	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 06:25	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 06:25	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 06:25	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 06:25	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 06:25	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 06:25	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 06:25	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 06:25	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 06:25	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 06:25	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 06:25	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 06:25	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 06:25	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 06:25	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 06:25	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 06:25	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 06:25	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 06:25	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 06:25	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 06:25	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 06:25	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 06:25	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 06:25	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 06:25	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 06:25	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 06:25	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 06:25	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 06:25	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 06:25	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 06:25	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 06:25	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 06:25	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 06:25	74-83-9	CL
Carbon disulfide	1.4	ug/L	1.0	0.20	1		03/03/17 06:25	75-15-0	
Carbon tetrachloride	540	ug/L	2.5	0.40	5		03/03/17 13:58	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 06:25	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 06:25	75-00-3	
Chloroform	74.4	ug/L	1.0	0.21	1		03/03/17 06:25	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 06:25	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 06:25	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: **MW9S-GW-030117** Lab ID: **10380566001** Collected: 03/01/17 08:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 06:25	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 06:25	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 06:25	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 06:25	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 06:25	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 06:25	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 06:25	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 06:25	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 06:25	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 06:25	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 06:25	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 06:25	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 06:25	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 06:25	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 06:25	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 06:25	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 06:25	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 06:25	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 06:25	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 06:25	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 06:25	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 06:25	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 06:25	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 06:25	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 06:25	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 06:25	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 06:25	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 06:25	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 06:25	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 06:25	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 06:25	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 06:25	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 06:25	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 06:25	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	75-125		1		03/03/17 06:25	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 06:25	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		03/03/17 06:25	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: MW7S-GW-030117 **Lab ID: 10380566002** Collected: 03/01/17 09:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 16:33	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 16:33	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 16:33	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 16:33	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 16:33	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 16:33	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 16:33	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 16:33	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 16:33	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 16:33	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 16:33	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 16:33	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 16:33	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 16:33	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 16:33	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 16:33	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 16:33	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 16:33	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 16:33	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 16:33	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 16:33	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 16:33	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 16:33	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 16:33	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 16:33	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 16:33	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 16:33	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 16:33	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 16:33	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 16:33	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 16:33	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 16:33	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 16:33	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 16:33	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 16:33	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 16:33	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 16:33	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 16:33	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 16:33	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 16:33	75-15-0	
Carbon tetrachloride	1.5	ug/L	0.50	0.079	1		03/03/17 16:33	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 16:33	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 16:33	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 16:33	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 16:33	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 16:33	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: MW7S-GW-030117 **Lab ID: 10380566002** Collected: 03/01/17 09:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 16:33	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 16:33	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 16:33	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 16:33	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 16:33	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 16:33	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 16:33	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 16:33	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 16:33	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 16:33	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 16:33	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 16:33	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 16:33	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 16:33	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 16:33	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 16:33	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 16:33	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 16:33	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 16:33	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 16:33	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 16:33	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 16:33	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 16:33	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 16:33	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 16:33	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 16:33	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 16:33	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 16:33	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 16:33	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 16:33	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 16:33	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 16:33	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 16:33	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 16:33	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 16:33	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/03/17 16:33	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/17 16:33	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: MW5D-GW-030117 Lab ID: 10380566003 Collected: 03/01/17 11:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 07:10	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 07:10	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:10	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 07:10	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 07:10	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:10	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 07:10	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 07:10	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 07:10	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 07:10	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 07:10	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 07:10	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 07:10	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 07:10	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 07:10	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 07:10	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 07:10	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 07:10	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 07:10	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 07:10	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 07:10	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 07:10	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 07:10	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 07:10	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 07:10	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 07:10	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 07:10	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 07:10	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 07:10	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 07:10	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 07:10	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 07:10	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 07:10	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 07:10	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 07:10	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 07:10	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 07:10	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 07:10	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 07:10	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 07:10	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 07:10	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 07:10	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 07:10	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 07:10	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 07:10	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 07:10	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: MW5D-GW-030117 **Lab ID: 10380566003** Collected: 03/01/17 11:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 07:10	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 07:10	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 07:10	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 07:10	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 07:10	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 07:10	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 07:10	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 07:10	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 07:10	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 07:10	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 07:10	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 07:10	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 07:10	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 07:10	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 07:10	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 07:10	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:10	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 07:10	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 07:10	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 07:10	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 07:10	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 07:10	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 07:10	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 07:10	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 07:10	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 07:10	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 07:10	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 07:10	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 07:10	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 07:10	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 07:10	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 07:10	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 07:10	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 07:10	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/03/17 07:10	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 07:10	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/03/17 07:10	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: **WS5Influent-GW-030117** Lab ID: **10380566004** Collected: 03/01/17 12:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 07:32	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 07:32	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:32	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 07:32	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 07:32	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:32	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 07:32	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 07:32	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 07:32	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 07:32	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 07:32	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 07:32	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 07:32	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 07:32	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 07:32	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 07:32	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 07:32	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 07:32	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 07:32	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 07:32	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 07:32	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 07:32	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 07:32	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 07:32	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 07:32	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 07:32	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 07:32	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 07:32	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 07:32	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 07:32	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 07:32	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 07:32	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 07:32	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 07:32	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 07:32	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 07:32	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 07:32	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 07:32	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 07:32	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 07:32	75-15-0	
Carbon tetrachloride	9.2	ug/L	0.50	0.079	1		03/03/17 07:32	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 07:32	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 07:32	75-00-3	
Chloroform	0.46J	ug/L	1.0	0.21	1		03/03/17 07:32	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 07:32	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 07:32	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: **WS5Influent-GW-030117** Lab ID: **10380566004** Collected: 03/01/17 12:15 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 07:32	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 07:32	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 07:32	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 07:32	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 07:32	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 07:32	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 07:32	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 07:32	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 07:32	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 07:32	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 07:32	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 07:32	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 07:32	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 07:32	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 07:32	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 07:32	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:32	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 07:32	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 07:32	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 07:32	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 07:32	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 07:32	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 07:32	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 07:32	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 07:32	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 07:32	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 07:32	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 07:32	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 07:32	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 07:32	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 07:32	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 07:32	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 07:32	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 07:32	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/03/17 07:32	17060-07-0	
Toluene-d8 (S)	106	%	75-125		1		03/03/17 07:32	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/03/17 07:32	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: **WS5Effluent-GW-030117** Lab ID: **10380566005** Collected: 03/01/17 12:20 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 07:54	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 07:54	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:54	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 07:54	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 07:54	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:54	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 07:54	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 07:54	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 07:54	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 07:54	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 07:54	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 07:54	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 07:54	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 07:54	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 07:54	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 07:54	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 07:54	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 07:54	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 07:54	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 07:54	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 07:54	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 07:54	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 07:54	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 07:54	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 07:54	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 07:54	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 07:54	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 07:54	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 07:54	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 07:54	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 07:54	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 07:54	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 07:54	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 07:54	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 07:54	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 07:54	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 07:54	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 07:54	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 07:54	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 07:54	75-15-0	
Carbon tetrachloride	0.32J	ug/L	0.50	0.079	1		03/03/17 07:54	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 07:54	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 07:54	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 07:54	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 07:54	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 07:54	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: **WS5Effluent-GW-030117** Lab ID: **10380566005** Collected: 03/01/17 12:20 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 07:54	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 07:54	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 07:54	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 07:54	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 07:54	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 07:54	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 07:54	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 07:54	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 07:54	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 07:54	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 07:54	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 07:54	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 07:54	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 07:54	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 07:54	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 07:54	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 07:54	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 07:54	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 07:54	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 07:54	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 07:54	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 07:54	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 07:54	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 07:54	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 07:54	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 07:54	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 07:54	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 07:54	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 07:54	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 07:54	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 07:54	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 07:54	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 07:54	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 07:54	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 07:54	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/03/17 07:54	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 07:54	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: Trip Blank **Lab ID: 10380566006** Collected: 03/01/17 08:00 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 03:49	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 03:49	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:49	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 03:49	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 03:49	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:49	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 03:49	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 03:49	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 03:49	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 03:49	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 03:49	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 03:49	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 03:49	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 03:49	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 03:49	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 03:49	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 03:49	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 03:49	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 03:49	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 03:49	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 03:49	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 03:49	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 03:49	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 03:49	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 03:49	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 03:49	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 03:49	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 03:49	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 03:49	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 03:49	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 03:49	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 03:49	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 03:49	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 03:49	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 03:49	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 03:49	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 03:49	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 03:49	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 03:49	74-83-9	CL
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 03:49	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 03:49	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 03:49	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 03:49	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 03:49	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 03:49	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 03:49	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Sample: Trip Blank **Lab ID: 10380566006** Collected: 03/01/17 08:00 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 03:49	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 03:49	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 03:49	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 03:49	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 03:49	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 03:49	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 03:49	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 03:49	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 03:49	1634-04-4	
Methylene Chloride	0.39J	ug/L	4.0	0.097	1		03/03/17 03:49	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 03:49	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 03:49	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 03:49	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 03:49	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 03:49	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 03:49	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 03:49	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 03:49	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 03:49	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 03:49	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 03:49	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 03:49	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 03:49	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 03:49	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 03:49	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 03:49	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 03:49	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 03:49	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 03:49	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 03:49	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 03:49	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 03:49	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 03:49	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 03:49	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 03:49	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 03:49	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 03:49	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

QC Batch: 462187 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380566001, 10380566003, 10380566004, 10380566005, 10380566006

METHOD BLANK: 2527140 Matrix: Water
Associated Lab Samples: 10380566001, 10380566003, 10380566004, 10380566005, 10380566006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 00:50	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 00:50	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 00:50	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 00:50	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 00:50	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 00:50	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 00:50	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 00:50	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 00:50	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 00:50	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 00:50	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 00:50	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 00:50	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 00:50	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 00:50	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 00:50	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 00:50	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 00:50	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 00:50	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 00:50	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 00:50	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 00:50	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 00:50	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 00:50	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 00:50	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 00:50	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 00:50	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 00:50	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 00:50	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 00:50	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 00:50	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 00:50	CL
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 00:50	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

METHOD BLANK: 2527140

Matrix: Water

Associated Lab Samples: 10380566001, 10380566003, 10380566004, 10380566005, 10380566006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 00:50	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 00:50	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 00:50	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 00:50	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 00:50	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 00:50	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 00:50	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 00:50	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 00:50	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 00:50	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 00:50	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 00:50	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 00:50	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 00:50	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 00:50	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 00:50	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 00:50	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 00:50	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 00:50	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 00:50	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 00:50	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 00:50	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 00:50	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 00:50	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 00:50	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 00:50	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 00:50	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 00:50	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 00:50	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 00:50	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 00:50	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 00:50	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 00:50	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 00:50	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 00:50	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 00:50	
1,2-Dichloroethane-d4 (S)	%	102	75-125		03/03/17 00:50	
4-Bromofluorobenzene (S)	%	105	75-125		03/03/17 00:50	
Toluene-d8 (S)	%	103	75-125		03/03/17 00:50	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	20.0	19.7	100	99	75-125	2	30		
1,1,1-Trichloroethane	ug/L	20	21.1	20.5	106	103	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	21.0	104	105	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	20.2	20.5	101	102	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.0	18.2	95	91	75-125	4	30		
1,1-Dichloroethane	ug/L	20	23.6	22.6	118	113	74-125	4	30		
1,1-Dichloroethene	ug/L	20	20.9	19.8	105	99	74-125	6	30		
1,1-Dichloropropene	ug/L	20	21.9	21.1	109	105	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	18.1	18.8	90	94	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.1	20.4	100	102	73-125	1	30		
1,2,4-Trichlorobenzene	ug/L	20	17.0	17.8	85	89	66-126	5	30		
1,2,4-Trimethylbenzene	ug/L	20	18.6	18.7	93	93	74-129	0	30		
1,2-Dibromo-3-chloropropane	ug/L	50	45.0	46.2	90	92	54-129	3	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.6	20.9	103	104	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	18.6	18.9	93	95	75-125	2	30		
1,2-Dichloroethane	ug/L	20	20.2	19.8	101	99	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	43.3	40.6	108	101	75-125	6	30		
1,2-Dichloropropane	ug/L	20	21.9	21.3	110	106	75-125	3	30		
1,3,5-Trimethylbenzene	ug/L	20	19.5	19.6	97	98	73-127	0	30		
1,3-Dichlorobenzene	ug/L	20	18.8	18.7	94	93	75-125	1	30		
1,3-Dichloropropane	ug/L	20	21.1	21.4	105	107	69-125	1	30		
1,4-Dichlorobenzene	ug/L	20	18.2	18.4	91	92	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	322	392	80	98	70-130	20	30		
2,2,4-Trimethylpentane	ug/L	20	17.5	16.9	87	84	67-138	4	30		
2,2-Dichloropropane	ug/L	20	18.1	17.2	91	86	69-125	5	30		
2-Butanone (MEK)	ug/L	100	100	104	100	104	48-145	3	30		
2-Chlorotoluene	ug/L	20	21.8	20.5	109	102	74-125	6	30		
2-Hexanone	ug/L	100	112	115	112	115	63-135	3	30		
4-Chlorotoluene	ug/L	20	20.6	20.5	103	102	73-125	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	116	113	116	53-138	2	30		
Acetone	ug/L	100	96.9	102	97	102	70-142	5	30		
Acrolein	ug/L	200	236	236	118	118	44-150	0	30		
Acrylonitrile	ug/L	200	220	219	110	110	68-125	0	30		
Benzene	ug/L	20	20.9	20.1	105	100	65-125	4	30		
Bromobenzene	ug/L	20	19.8	19.3	99	96	75-125	2	30		
Bromochloromethane	ug/L	20	20.5	20.2	102	101	75-125	2	30		
Bromodichloromethane	ug/L	20	20.1	19.5	101	98	73-125	3	30		
Bromoform	ug/L	20	17.6	18.0	88	90	69-125	3	30		
Bromomethane	ug/L	20	11.5	13.3	57	66	40-136	15	30	CL	
Carbon disulfide	ug/L	20	19.4	18.4	97	92	36-150	6	30		
Carbon tetrachloride	ug/L	20	19.8	19.7	99	99	70-125	0	30		
Chlorobenzene	ug/L	20	19.6	19.5	98	97	75-125	0	30		
Chloroethane	ug/L	20	24.9	23.5	125	118	67-141	6	30		
Chloroform	ug/L	20	19.5	19.4	98	97	75-125	1	30		
Chloromethane	ug/L	20	19.3	16.8	96	84	50-150	14	30		
cis-1,2-Dichloroethene	ug/L	20	21.7	20.4	108	102	75-125	6	30		
cis-1,3-Dichloropropene	ug/L	20	21.1	21.2	106	106	75-125	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

LABORATORY CONTROL SAMPLE & LCSD: 2527141		2527142								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	19.6	19.4	98	97	75-125	1	30	
Dibromomethane	ug/L	20	19.0	19.0	95	95	75-129	0	30	
Dichlorodifluoromethane	ug/L	20	20.0	19.1	100	96	59-135	5	30	
Dichlorofluoromethane	ug/L	20	21.7	20.6	109	103	74-130	5	30	
Diisopropyl ether	ug/L	20	22.5	22.1	112	111	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	22.0	22.1	110	110	70-130	0	30	
Ethylbenzene	ug/L	20	20.2	19.8	101	99	75-125	2	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	17.9	85	89	72-126	5	30	
Isopropylbenzene (Cumene)	ug/L	20	18.2	18.2	91	91	71-136	0	30	
m&p-Xylene	ug/L	40	41.1	40.1	103	100	75-125	2	30	
Methyl-tert-butyl ether	ug/L	20	21.3	21.3	107	107	73-127	0	30	
Methylene Chloride	ug/L	20	21.0	20.8	105	104	68-128	1	30	
n-Butylbenzene	ug/L	20	18.0	17.6	90	88	70-126	2	30	
n-Propylbenzene	ug/L	20	20.1	19.6	100	98	67-131	2	30	
Naphthalene	ug/L	20	15.7	16.4	78	82	52-134	5	30	
o-Xylene	ug/L	20	19.6	19.4	98	97	75-125	1	30	
p-Isopropyltoluene	ug/L	20	18.6	18.2	93	91	74-125	2	30	
sec-Butylbenzene	ug/L	20	18.4	18.3	92	92	69-134	0	30	
Styrene	ug/L	20	19.0	19.4	95	97	75-125	3	30	
tert-Amylmethyl ether	ug/L	20	20.8	20.6	104	103	70-130	1	30	
tert-Butyl Alcohol	ug/L	200	173	210	87	105	66-128	19	30	
tert-Butylbenzene	ug/L	20	17.8	17.8	89	89	71-128	0	30	
Tetrachloroethene	ug/L	20	18.3	17.2	91	86	74-125	6	30	
Tetrahydrofuran	ug/L	200	187	208	94	104	64-142	11	30	
Toluene	ug/L	20	19.4	19.1	97	95	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	20	21.6	20.1	108	101	73-125	7	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	21.0	104	105	75-125	0	30	
trans-1,4-Dichloro-2-butene	ug/L	50	45.0	45.9	90	92	54-133	2	30	
Trichloroethene	ug/L	20	20.7	20.0	103	100	75-125	3	30	
Trichlorofluoromethane	ug/L	20	20.1	19.1	100	95	75-126	5	30	
Vinyl acetate	ug/L	20	24.4	24.3	122	121	67-126	0	30	
Vinyl chloride	ug/L	20	23.0	22.3	115	112	72-125	3	30	
Xylene (Total)	ug/L	60	60.6	59.4	101	99	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%				102	99	75-125			
4-Bromofluorobenzene (S)	%				105	105	75-125			
Toluene-d8 (S)	%				101	101	75-125			

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Parameter	Units	Result					
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	19.7	98	75-127	
1,1,1-Trichloroethane	ug/L	<0.057	20	21.3	107	66-142	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.5	102	70-131	
1,1,2-Trichloroethane	ug/L	<0.064	20	19.8	99	75-128	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.6	108	54-150	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

MATRIX SPIKE SAMPLE: 2527143		10380471001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.1	115	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.6	103	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.4	112	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.9	95	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	19.9	99	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	17.7	89	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	18.8	94	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.5	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20.1	101	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.1	95	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	41.4	103	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.7	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	19.9	99	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	18.9	94	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.7	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	18.3	92	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	373	93	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20.9	105	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	16.8	84	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	92.7	93	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.2	111	71-135	
2-Hexanone	ug/L	<0.19	100	107	107	43-150	
4-Chlorotoluene	ug/L	<0.048	20	20.8	104	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	106	106	60-147	
Acetone	ug/L	<0.64	100	101	101	59-150	
Acrolein	ug/L	<2.1	200	230	115	30-150	
Acrylonitrile	ug/L	<0.49	200	206	103	41-148	
Benzene	ug/L	<0.042	20	20.9	104	61-138	
Bromobenzene	ug/L	<0.087	20	19.2	96	74-130	
Bromochloromethane	ug/L	<0.082	20	20.1	100	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.2	96	66-136	
Bromoform	ug/L	<0.11	20	17.0	85	71-125	
Bromomethane	ug/L	<0.20	20	15.1	75	30-150	CL
Carbon disulfide	ug/L	<0.20	20	19.1	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	20.7	104	68-140	
Chlorobenzene	ug/L	<0.066	20	19.6	98	75-132	
Chloroethane	ug/L	<0.12	20	24.0	120	55-150	
Chloroform	ug/L	<0.21	20	19.1	95	64-139	
Chloromethane	ug/L	<0.080	20	19.3	97	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20.5	102	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	18.4	92	70-125	
Dibromochloromethane	ug/L	<0.048	20	19.1	95	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	89	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	22.9	115	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.3	107	58-150	
Diisopropyl ether	ug/L	<0.050	20	21.5	107	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

MATRIX SPIKE SAMPLE: 2527143

Parameter	Units	10380471001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	21.0	105	30-140	
Ethylbenzene	ug/L	<0.075	20	20.4	102	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	18.9	95	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.9	94	65-146	
m&p-Xylene	ug/L	<0.11	40	40.8	102	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.8	99	63-134	
Methylene Chloride	ug/L	1.7J	20	21.4	98	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.7	94	67-134	
n-Propylbenzene	ug/L	<0.049	20	20.6	103	62-142	
Naphthalene	ug/L	<0.064	20	15.7	78	41-150	
o-Xylene	ug/L	<0.044	20	19.8	99	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	18.2	91	64-137	
sec-Butylbenzene	ug/L	<0.094	20	19.3	96	65-142	
Styrene	ug/L	<0.056	20	17.3	87	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	20.0	100	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	201	101	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	18.3	91	62-142	
Tetrahydrofuran	ug/L	<1.5	200	204	102	55-150	
Toluene	ug/L	<0.059	20	19.4	97	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.9	105	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.2	101	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	43.2	86	31-150	
Trichloroethene	ug/L	<0.044	20	20.7	104	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	21.9	109	63-150	
Vinyl acetate	ug/L	<0.12	20	17.5	88	30-150	
Vinyl chloride	ug/L	<0.098	20	23.7	119	58-150	
Xylene (Total)	ug/L	<0.15	60	60.6	101	70-140	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	CL
Carbon disulfide	ug/L	<0.20	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

SAMPLE DUPLICATE: 2527144

Parameter	Units	10380472001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	105	105	1		
4-Bromofluorobenzene (S)	%	104	102	1		
Toluene-d8 (S)	%	104	105	0		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

QC Batch: 462413 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380566002

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380566002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 13:35	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 13:35	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 13:35	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 13:35	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 13:35	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 13:35	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 13:35	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 13:35	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 13:35	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 13:35	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 13:35	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 13:35	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 13:35	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 13:35	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 13:35	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 13:35	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 13:35	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 13:35	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 13:35	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 13:35	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 13:35	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 13:35	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 13:35	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 13:35	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 13:35	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 13:35	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 13:35	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 13:35	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 13:35	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 13:35	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 13:35	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 13:35	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380566002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 13:35	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 13:35	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 13:35	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 13:35	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 13:35	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 13:35	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 13:35	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 13:35	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 13:35	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 13:35	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 13:35	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 13:35	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 13:35	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 13:35	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 13:35	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 13:35	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 13:35	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 13:35	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 13:35	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 13:35	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 13:35	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 13:35	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 13:35	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 13:35	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 13:35	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 13:35	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 13:35	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 13:35	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 13:35	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/03/17 13:35	
4-Bromofluorobenzene (S)	%	104	75-125		03/03/17 13:35	
Toluene-d8 (S)	%	104	75-125		03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

LABORATORY CONTROL SAMPLE & LCSD: 2528545		2528546		LCS	LCSD	% Rec	LCSD	% Rec	Max	
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	19.8	95	99	75-125	4	30	
1,1,1-Trichloroethane	ug/L	20	20.1	20.2	101	101	74-125	0	30	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	21.3	97	107	67-131	10	30	
1,1,2-Trichloroethane	ug/L	20	19.9	20.5	99	103	75-125	3	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	18.1	92	90	75-125	1	30	
1,1-Dichloroethane	ug/L	20	22.2	22.7	111	113	74-125	2	30	
1,1-Dichloroethene	ug/L	20	19.4	19.1	97	96	74-125	1	30	
1,1-Dichloropropene	ug/L	20	19.9	20.5	99	103	74-125	3	30	
1,2,3-Trichlorobenzene	ug/L	20	16.7	18.4	83	92	63-131	10	30	
1,2,3-Trichloropropane	ug/L	20	19.4	21.1	97	105	73-125	8	30	
1,2,4-Trichlorobenzene	ug/L	20	15.5	16.7	77	83	66-126	8	30	
1,2,4-Trimethylbenzene	ug/L	20	17.2	18.3	86	91	74-129	6	30	
1,2-Dibromo-3-chloropropane	ug/L	50	37.9	44.0	76	88	54-129	15	30	
1,2-Dibromoethane (EDB)	ug/L	20	18.9	20.3	94	101	75-125	7	30	
1,2-Dichlorobenzene	ug/L	20	17.3	18.6	87	93	75-125	7	30	
1,2-Dichloroethane	ug/L	20	18.8	19.2	94	96	75-125	2	30	
1,2-Dichloroethene (Total)	ug/L	40	39.5	40.0	99	100	75-125	1	30	
1,2-Dichloropropane	ug/L	20	20.6	21.4	103	107	75-125	4	30	
1,3,5-Trimethylbenzene	ug/L	20	18.2	19.2	91	96	73-127	6	30	
1,3-Dichlorobenzene	ug/L	20	17.6	18.6	88	93	75-125	5	30	
1,3-Dichloropropane	ug/L	20	20.2	21.1	101	105	69-125	4	30	
1,4-Dichlorobenzene	ug/L	20	17.4	18.4	87	92	75-125	6	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	308	396	77	99	70-130	25	30	
2,2,4-Trimethylpentane	ug/L	20	18.5	19.0	92	95	67-138	3	30	
2,2-Dichloropropane	ug/L	20	20.7	20.6	104	103	69-125	1	30	
2-Butanone (MEK)	ug/L	100	94.9	105	95	105	48-145	10	30	
2-Chlorotoluene	ug/L	20	20.4	20.6	102	103	74-125	1	30	
2-Hexanone	ug/L	100	101	114	101	114	63-135	12	30	
4-Chlorotoluene	ug/L	20	19.1	20.2	96	101	73-125	6	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	115	104	115	53-138	10	30	
Acetone	ug/L	100	96.1	117	96	117	70-142	19	30	
Acrolein	ug/L	200	189	208	94	104	44-150	10	30	
Acrylonitrile	ug/L	200	208	226	104	113	68-125	8	30	
Benzene	ug/L	20	20.1	20.0	100	100	65-125	0	30	
Bromobenzene	ug/L	20	17.9	19.0	90	95	75-125	6	30	
Bromochloromethane	ug/L	20	19.3	19.9	96	100	75-125	3	30	
Bromodichloromethane	ug/L	20	19.4	20.1	97	100	73-125	3	30	
Bromoform	ug/L	20	16.8	17.7	84	88	69-125	5	30	
Bromomethane	ug/L	20	13.3	15.4	66	77	40-136	15	30	
Carbon disulfide	ug/L	20	18.4	18.3	92	92	36-150	1	30	
Carbon tetrachloride	ug/L	20	18.9	19.3	95	97	70-125	2	30	
Chlorobenzene	ug/L	20	18.5	19.1	93	95	75-125	3	30	
Chloroethane	ug/L	20	23.4	22.7	117	114	67-141	3	30	
Chloroform	ug/L	20	18.8	19.0	94	95	75-125	1	30	
Chloromethane	ug/L	20	20.0	20.7	100	104	50-150	4	30	
cis-1,2-Dichloroethene	ug/L	20	19.6	20.1	98	100	75-125	3	30	
cis-1,3-Dichloropropene	ug/L	20	20.3	21.4	102	107	75-125	5	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

LABORATORY CONTROL SAMPLE & LCSD:		2528545		2528546							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.4	19.4	92	97	75-125	5	30		
Dibromomethane	ug/L	20	18.2	19.0	91	95	75-129	4	30		
Dichlorodifluoromethane	ug/L	20	19.4	19.0	97	95	59-135	2	30		
Dichlorofluoromethane	ug/L	20	20.6	20.6	103	103	74-130	0	30		
Diisopropyl ether	ug/L	20	20.2	21.7	101	109	71-125	7	30		
Ethyl-tert-butyl ether	ug/L	20	20.1	21.6	101	108	70-130	7	30		
Ethylbenzene	ug/L	20	18.7	19.3	94	97	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	16.9	17.5	84	88	72-126	4	30		
Isopropylbenzene (Cumene)	ug/L	20	16.9	17.4	84	87	71-136	3	30		
m&p-Xylene	ug/L	40	38.6	39.2	96	98	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.4	20.6	97	103	73-127	6	30		
Methylene Chloride	ug/L	20	20.2	20.9	101	105	68-128	4	30		
n-Butylbenzene	ug/L	20	17.1	17.9	85	89	70-126	4	30		
n-Propylbenzene	ug/L	20	18.9	19.9	94	100	67-131	5	30		
Naphthalene	ug/L	20	13.0	14.8	65	74	52-134	14	30		
o-Xylene	ug/L	20	17.6	18.1	88	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	17.6	18.2	88	91	74-125	3	30		
sec-Butylbenzene	ug/L	20	17.2	18.2	86	91	69-134	6	30		
Styrene	ug/L	20	18.0	18.9	90	94	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.9	20.0	95	100	70-130	6	30		
tert-Butyl Alcohol	ug/L	200	170	222	85	111	66-128	26	30		
tert-Butylbenzene	ug/L	20	16.1	17.3	81	87	71-128	7	30		
Tetrachloroethene	ug/L	20	17.1	17.4	85	87	74-125	2	30		
Tetrahydrofuran	ug/L	200	174	211	87	106	64-142	20	30		
Toluene	ug/L	20	18.3	18.7	92	94	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	19.9	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	21.1	103	106	75-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	51.3	92	103	54-133	11	30		
Trichloroethene	ug/L	20	19.6	19.7	98	98	75-125	1	30		
Trichlorofluoromethane	ug/L	20	19.4	19.1	97	96	75-126	2	30		
Vinyl acetate	ug/L	20	22.9	24.4	115	122	67-126	6	30		
Vinyl chloride	ug/L	20	22.0	22.2	110	111	72-125	1	30		
Xylene (Total)	ug/L	60	56.1	57.3	94	96	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				101	99	75-125				
4-Bromofluorobenzene (S)	%				99	102	75-125				
Toluene-d8 (S)	%				100	100	75-125				

MATRIX SPIKE SAMPLE:		2528547		10380479001							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	18.7	93	75-127					
1,1,1-Trichloroethane	ug/L	<0.057	20	20.4	102	66-142					
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.4	102	70-131					
1,1,2-Trichloroethane	ug/L	<0.064	20	19.5	98	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.4	107	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	22.3	111	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.4	102	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	21.3	106	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.2	91	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.5	103	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	16.6	83	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	17.2	86	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.7	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.1	96	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	17.6	88	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	18.2	91	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	39.9	100	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.6	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	17.9	89	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	17.8	89	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.0	100	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	17.2	86	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	361	90	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	22.1	110	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.3	106	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	97.1	97	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.5	97	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.0	95	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	110	110	60-147	
Acetone	ug/L	<0.64	100	96.5	97	59-150	
Acrolein	ug/L	<2.1	200	280	140	30-150	
Acrylonitrile	ug/L	<0.49	200	210	105	41-148	
Benzene	ug/L	<0.042	20	19.5	97	61-138	
Bromobenzene	ug/L	<0.087	20	18.1	90	74-130	
Bromochloromethane	ug/L	<0.082	20	19.0	95	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	97	66-136	
Bromoform	ug/L	<0.11	20	17.1	86	71-125	
Bromomethane	ug/L	<0.20	20	16.8	84	30-150	
Carbon disulfide	ug/L	<0.20	20	19.3	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	19.7	99	68-140	
Chlorobenzene	ug/L	<0.066	20	18.4	92	75-132	
Chloroethane	ug/L	<0.12	20	24.4	122	55-150	
Chloroform	ug/L	<0.21	20	17.9	90	64-139	
Chloromethane	ug/L	<0.080	20	22.4	112	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.6	98	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.0	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.8	94	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	23.8	119	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.6	108	58-150	
Diisopropyl ether	ug/L	<0.050	20	20.8	104	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.0	100	30-140	
Ethylbenzene	ug/L	<0.075	20	18.7	93	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	19.6	98	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	16.5	83	65-146	
m&p-Xylene	ug/L	<0.11	40	37.8	95	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.7	98	63-134	
Methylene Chloride	ug/L	<0.097	20	20.1	100	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.1	91	67-134	
n-Propylbenzene	ug/L	<0.049	20	18.9	94	62-142	
Naphthalene	ug/L	<0.064	20	14.0	70	41-150	
o-Xylene	ug/L	<0.044	20	17.6	88	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	17.8	89	64-137	
sec-Butylbenzene	ug/L	<0.094	20	17.8	89	65-142	
Styrene	ug/L	<0.056	20	17.7	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.3	96	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	198	99	59-138	
tert-Butylbenzene	ug/L	<0.051	20	16.7	84	69-135	
Tetrachloroethene	ug/L	<0.13	20	17.5	87	62-142	
Tetrahydrofuran	ug/L	<1.5	200	187	94	55-150	
Toluene	ug/L	<0.059	20	18.4	92	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.3	102	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.7	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50.1	100	31-150	
Trichloroethene	ug/L	<0.044	20	19.8	99	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	22.2	111	63-150	
Vinyl acetate	ug/L	<0.12	20	23.1	116	30-150	
Vinyl chloride	ug/L	<0.098	20	24.8	124	58-150	
Xylene (Total)	ug/L	<0.15	60	55.5	92	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.6	19.0	93	95	75-127	2	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	20.9	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	19.8	19.8	99	99	70-131	0	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.9	19.2	94	96	75-128	2	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.2	21.4	106	107	54-150	1	30
1,1-Dichloroethane	ug/L	<0.055	20	20	23.2	22.9	116	114	58-147	1	30
1,1-Dichloroethene	ug/L	<0.069	20	20	20.4	20.5	102	102	49-150	0	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.3	21.7	106	108	58-147	2	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	16.4	17.6	82	88	57-139	7	30

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.2	19.9	96	99	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	15.3	16.3	77	81	55-136	6	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.6	86	88	67-138	2	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	40.0	41.0	80	82	63-136	2	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.9	19.1	94	96	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.5	17.9	88	89	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	18.6	94	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.4	40.6	99	101	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.5	19.7	102	99	63-138	4	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.3	18.7	91	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.3	18.0	87	90	75-125	4	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	19.8	20.2	99	101	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.2	17.3	86	86	70-126	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	337	361	84	90	54-145	7	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	19.1	20.5	96	103	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	18.1	17.9	90	90	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	95.5	95.0	95	95	50-144	0	30		
2-Chlorotoluene	ug/L	<0.084	20	20	19.7	20.6	99	103	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	106	108	106	108	43-150	2	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.2	19.4	96	97	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	107	108	107	108	60-147	1	30		
Acetone	ug/L	<0.64	100	100	98.9	97.6	99	98	59-150	1	30		
Acrolein	ug/L	<2.1	200	200	255	254	128	127	30-150	1	30		
Acrylonitrile	ug/L	<0.49	200	200	214	210	107	105	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.8	20.1	99	100	61-138	1	30		
Bromobenzene	ug/L	<0.087	20	20	18.1	18.3	91	91	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	19.2	19.0	96	95	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.1	18.8	96	94	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	16.0	16.6	80	83	71-125	4	30		
Bromomethane	ug/L	<0.20	20	20	15.6	18.5	78	93	30-150	17	30		
Carbon disulfide	ug/L	<0.20	20	20	18.6	18.8	93	94	30-150	1	30		
Carbon tetrachloride	ug/L	2.5	20	20	22.4	22.9	100	102	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	18.6	18.6	93	93	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	24.1	25.0	120	125	55-150	4	30		
Chloroform	ug/L	0.35J	20	20	18.7	19.1	92	94	64-139	2	30		
Chloromethane	ug/L	<0.080	20	20	23.7	23.7	119	119	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.7	20.0	99	100	62-138	1	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.3	17.9	92	90	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	18.1	18.6	90	93	74-125	3	30		
Dibromomethane	ug/L	<0.14	20	20	17.7	17.0	88	85	66-138	4	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	22.7	23.6	114	118	53-150	4	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.2	22.1	106	111	58-150	4	30		
Diisopropyl ether	ug/L	<0.050	20	20	21.3	21.0	107	105	50-139	2	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.6	20.6	103	103	30-140	0	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Ethylbenzene	ug/L	<0.075	20	20	19.0	19.0	95	95	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	16.3	18.4	81	92	63-139	12	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.0	17.2	85	86	65-146	1	30	
m&p-Xylene	ug/L	<0.11	40	40	38.2	38.7	96	97	72-142	1	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.6	19.9	98	99	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	20.3	19.6	101	98	49-143	4	30	
n-Butylbenzene	ug/L	<0.16	20	20	16.6	17.7	83	89	67-134	7	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.2	95	96	62-142	2	30	
Naphthalene	ug/L	<0.064	20	20	13.8	14.7	69	73	41-150	6	30	
o-Xylene	ug/L	<0.044	20	20	17.7	18.2	89	91	66-138	2	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	16.5	17.1	83	86	64-137	4	30	
sec-Butylbenzene	ug/L	<0.094	20	20	17.4	17.9	87	89	65-142	3	30	
Styrene	ug/L	<0.056	20	20	16.9	16.3	84	81	61-142	3	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.1	19.3	96	96	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	202	207	101	103	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.5	17.1	82	85	69-135	4	30	
Tetrachloroethene	ug/L	<0.13	20	20	16.9	17.4	84	87	62-142	3	30	
Tetrahydrofuran	ug/L	<1.5	200	200	186	188	93	94	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.1	18.3	91	92	66-132	1	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.7	20.6	99	103	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.6	20.0	98	100	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	42.9	43.8	86	88	31-150	2	30	
Trichloroethene	ug/L	<0.044	20	20	19.6	20.3	98	101	64-142	3	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	22.5	108	113	63-150	4	30	
Vinyl acetate	ug/L	<0.12	20	20	19.4	18.8	97	94	30-150	3	30	
Vinyl chloride	ug/L	<0.098	20	20	24.0	25.2	120	126	58-150	5	30	
Xylene (Total)	ug/L	<0.15	60	60	56.0	56.9	93	95	70-140	2	30	
1,2-Dichloroethane-d4 (S)	%						102	101	75-125			
4-Bromofluorobenzene (S)	%						103	104	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380566

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462187

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

CL The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380566

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380566001	MW9S-GW-030117	EPA 8260B	462187		
10380566002	MW7S-GW-030117	EPA 8260B	462413		
10380566003	MW5D-GW-030117	EPA 8260B	462187		
10380566004	WS5Influent-GW-030117	EPA 8260B	462187		
10380566005	WS5Effluent-GW-030117	EPA 8260B	462187		
10380566006	Trip Blank	EPA 8260B	462187		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10380566

Section A
Required Client Information:

Section B
Required Project Information:

Section C
Invoice Information:

Page: 1 of 1

Company: CH2M Hill	Report To: Mark Ochsner, Brad Ostapkowicz	Attention: Gary Honeyman
Address: 999 W. Riverside Ave, Suite 500	Copy To: Steve Demus	Company Name: UPRR
Spokane, WA 99201		Address: CAS
Email: mark.Ochsner@ch2n.com	Purchase Order #:	Pace Quote:
Phone: Fax:	Project Name: UPRR_Freeman	Pace Project Manager:
Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day	Project #: 1497	Pace Profile #: 36447 / 1

Regulatory Agency
State / Location
WA / Freeman

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9, -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol				Other
				DATE	TIME	DATE	TIME													
1	MW 9S-GW-030117	WTG		3/17	0915			3				X							001	
2	MW 7S-GW-030117				0925			3				X							002	
3	MW 5D-GW-030117				1140			3				X							003	
4	WS5 Influent-GW-030117				1215			3				X							004	
5	WS5 Effluent-GW-030117				1220			3				X							005	
6	Trip Blank				0800			2				X							006	
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Low MDL 8260	ZKH/CH2M	3/17	15:30	[Signature]	3/17	9:45	4.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:						
SIGNATURE of SAMPLER:	DATE Signed:					

Sample Condition Upon Receipt - ESI Tech Specs Client Name: CH2M Hill Project #: **WO# : 10380566**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7096 3371 0314
 Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on-ice, cooling process has begun

Cooler Temp Read (°C): 4.1 Cooler Temp Corrected (°C): 4.2 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: +0.1 Date and Initials of Person Examining Contents: KAC 3-2-17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	Yes	No	N/A	COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		6.
Rush Turn Around Time Requested?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		8.
Correct Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		9.
-Pace Containers Used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Containers Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation have been checked?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> N/A	15. <u>only 2</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>110912</u>				

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>10:15</u>	Temp: <u>4.1</u>	Corrected Temp: <u>4.2</u>
Time: <u>10:35</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 03/02/17
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

March 15, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

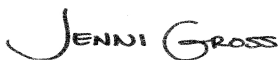
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #:40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380572001	MW2D-GW-022817	Water	02/28/17 11:25	03/02/17 09:45
10380572002	MW1D-GW-022817	Water	02/28/17 14:40	03/02/17 09:45
10380572003	TRIP BLANK	Water	02/28/17 08:00	03/02/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380572001	MW2D-GW-022817	RSK 175	MJL	3	PASI-M
		6010C Met	IP	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10380572002	MW1D-GW-022817	RSK 175	MJL	3	PASI-M
		6010C Met	IP	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	JFP	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10380572003	TRIP BLANK	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380572001	MW2D-GW-022817					
RSK 175	Ethane	8.6J	ug/L	10.0	03/07/17 08:08	
RSK 175	Ethane	2.4J	ug/L	10.0	03/07/17 08:08	
RSK 175	Methane	78.6	ug/L	10.0	03/07/17 08:08	
6010C Met	Aluminum, Dissolved	16.9J	ug/L	200	03/06/17 08:15	
6010C Met	Barium, Dissolved	104	ug/L	10.0	03/06/17 08:15	
6010C Met	Calcium, Dissolved	36000	ug/L	500	03/06/17 08:15	
6010C Met	Cobalt, Dissolved	1.4J	ug/L	10.0	03/06/17 08:15	
6010C Met	Iron, Dissolved	2310	ug/L	50.0	03/06/17 08:15	
6010C Met	Magnesium, Dissolved	10700	ug/L	500	03/06/17 08:15	
6010C Met	Manganese, Dissolved	1670	ug/L	5.0	03/06/17 08:15	
6010C Met	Potassium, Dissolved	5190	ug/L	2500	03/06/17 08:15	
6010C Met	Sodium, Dissolved	17200	ug/L	1000	03/06/17 08:15	
6010C Met	Vanadium, Dissolved	0.74J	ug/L	15.0	03/06/17 08:15	
EPA 8260B	Acetone	1.7J	ug/L	20.0	03/03/17 18:03	
EPA 8260B	Benzene	0.51	ug/L	0.50	03/03/17 18:03	
EPA 8260B	Ethylbenzene	0.16J	ug/L	0.50	03/03/17 18:03	
EPA 8260B	Toluene	0.44J	ug/L	0.50	03/03/17 18:03	
EPA 8260B	m&p-Xylene	0.14J	ug/L	1.0	03/03/17 18:03	
SM 2320B	Alkalinity, Total as CaCO3	161	mg/L	5.0	03/11/17 12:32	
SM 2540C	Total Dissolved Solids	235	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	1.6	mg/L	1.2	03/02/17 14:47	B
EPA 300.0	Nitrate as N	0.056J	mg/L	0.10	03/02/17 14:47	H1
EPA 300.0	Sulfate	0.53J	mg/L	1.2	03/02/17 14:47	
SM 5310C	Total Organic Carbon	2.9	mg/L	1.0	03/09/17 19:45	
10380572002	MW1D-GW-022817					
RSK 175	Ethane	5.1J	ug/L	10.0	03/07/17 08:23	
RSK 175	Ethane	1.7J	ug/L	10.0	03/07/17 08:23	
RSK 175	Methane	10.8	ug/L	10.0	03/07/17 08:23	
6010C Met	Barium, Dissolved	77.5	ug/L	10.0	03/06/17 08:19	
6010C Met	Calcium, Dissolved	51200	ug/L	500	03/06/17 08:19	
6010C Met	Cobalt, Dissolved	2.7J	ug/L	10.0	03/06/17 08:19	
6010C Met	Iron, Dissolved	3140	ug/L	50.0	03/06/17 08:19	
6010C Met	Magnesium, Dissolved	12800	ug/L	500	03/06/17 08:19	
6010C Met	Manganese, Dissolved	707	ug/L	5.0	03/06/17 08:19	
6010C Met	Potassium, Dissolved	3350	ug/L	2500	03/06/17 08:19	
6010C Met	Sodium, Dissolved	12200	ug/L	1000	03/06/17 08:19	
6010C Met	Vanadium, Dissolved	0.77J	ug/L	15.0	03/06/17 08:19	
6010C Met	Zinc, Dissolved	2.1J	ug/L	20.0	03/06/17 08:19	B
EPA 8260B	Carbon disulfide	1.4	ug/L	1.0	03/03/17 18:25	
SM 2320B	Alkalinity, Total as CaCO3	190	mg/L	5.0	03/11/17 12:36	
SM 2540C	Total Dissolved Solids	253	mg/L	10.0	03/04/17 18:38	
EPA 300.0	Chloride	1.9	mg/L	1.2	03/02/17 14:32	B
EPA 300.0	Nitrate as N	0.043J	mg/L	0.10	03/02/17 14:32	
EPA 300.0	Sulfate	1.5	mg/L	1.2	03/02/17 14:32	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	03/09/17 19:59	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380572003	TRIP BLANK					
EPA 8260B	Methylene Chloride	0.44J	ug/L	4.0	03/03/17 14:42	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 462430

B: Analyte was detected in the associated method blank.

- BLANK for HBN 462430 [MPRP/705 (Lab ID: 2528598)]
- Zinc, Dissolved

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 75925

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380721001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 320151)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- MW2D-GW-022817 (Lab ID: 10380572001)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 462271

B: Analyte was detected in the associated method blank.

- BLANK for HBN 462271 [WETA/302 (Lab ID: 2527813)]
 - Chloride

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

2 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

Sample: MW2D-GW-022817 **Lab ID: 10380572001** Collected: 02/28/17 11:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	8.6J	ug/L	10.0	0.87	1		03/07/17 08:08	74-84-0	
Ethene	2.4J	ug/L	10.0	0.77	1		03/07/17 08:08	74-85-1	
Methane	78.6	ug/L	10.0	0.49	1		03/07/17 08:08	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	16.9J	ug/L	200	13.5	1	03/03/17 13:52	03/06/17 08:15	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:15	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:15	7440-38-2	
Barium, Dissolved	104	ug/L	10.0	0.20	1	03/03/17 13:52	03/06/17 08:15	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 13:52	03/06/17 08:15	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 13:52	03/06/17 08:15	7440-43-9	
Calcium, Dissolved	36000	ug/L	500	15.8	1	03/03/17 13:52	03/06/17 08:15	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 13:52	03/06/17 08:15	7440-47-3	
Cobalt, Dissolved	1.4J	ug/L	10.0	0.51	1	03/03/17 13:52	03/06/17 08:15	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/03/17 13:52	03/06/17 08:15	7440-50-8	
Iron, Dissolved	2310	ug/L	50.0	18.0	1	03/03/17 13:52	03/06/17 08:15	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/03/17 13:52	03/06/17 08:15	7439-92-1	
Magnesium, Dissolved	10700	ug/L	500	7.4	1	03/03/17 13:52	03/06/17 08:15	7439-95-4	
Manganese, Dissolved	1670	ug/L	5.0	0.33	1	03/03/17 13:52	03/06/17 08:15	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 13:52	03/06/17 08:15	7440-02-0	
Potassium, Dissolved	5190	ug/L	2500	26.1	1	03/03/17 13:52	03/06/17 08:15	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 13:52	03/06/17 08:15	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 13:52	03/06/17 08:15	7440-22-4	
Sodium, Dissolved	17200	ug/L	1000	12.0	1	03/03/17 13:52	03/06/17 08:15	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 13:52	03/06/17 08:15	7440-28-0	
Vanadium, Dissolved	0.74J	ug/L	15.0	0.39	1	03/03/17 13:52	03/06/17 08:15	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	03/03/17 13:52	03/06/17 08:15	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 14:53	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 18:03	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 18:03	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:03	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 18:03	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 18:03	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:03	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 18:03	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 18:03	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 18:03	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 18:03	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 18:03	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 18:03	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 18:03	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 18:03	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: MW2D-GW-022817 Lab ID: 10380572001 Collected: 02/28/17 11:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 18:03	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 18:03	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 18:03	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 18:03	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 18:03	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 18:03	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 18:03	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 18:03	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 18:03	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 18:03	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 18:03	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 18:03	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 18:03	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 18:03	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 18:03	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 18:03	108-10-1	
Acetone	1.7J	ug/L	20.0	0.64	1		03/03/17 18:03	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 18:03	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 18:03	107-13-1	
Benzene	0.51	ug/L	0.50	0.042	1		03/03/17 18:03	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 18:03	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 18:03	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 18:03	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 18:03	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 18:03	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 18:03	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 18:03	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 18:03	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 18:03	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 18:03	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 18:03	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 18:03	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 18:03	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 18:03	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 18:03	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 18:03	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 18:03	637-92-3	
Ethylbenzene	0.16J	ug/L	0.50	0.075	1		03/03/17 18:03	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 18:03	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 18:03	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 18:03	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 18:03	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 18:03	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 18:03	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 18:03	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 18:03	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: MW2D-GW-022817 Lab ID: 10380572001 Collected: 02/28/17 11:25 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	0.44J	ug/L	0.50	0.059	1		03/03/17 18:03	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 18:03	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:03	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 18:03	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 18:03	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 18:03	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 18:03	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 18:03	10061-01-5	
m&p-Xylene	0.14J	ug/L	1.0	0.11	1		03/03/17 18:03	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 18:03	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 18:03	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 18:03	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 18:03	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 18:03	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 18:03	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 18:03	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 18:03	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 18:03	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 18:03	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 18:03	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/03/17 18:03	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 18:03	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/17 18:03	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	161	mg/L	5.0	1.4	1		03/11/17 12:32		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	235	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/07/17 14:16	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	1.6	mg/L	1.2	0.10	1		03/02/17 14:47	16887-00-6	B
Nitrate as N	0.056J	mg/L	0.10	0.013	1		03/02/17 14:47	14797-55-8	H1
Sulfate	0.53J	mg/L	1.2	0.16	1		03/02/17 14:47	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	2.9	mg/L	1.0	0.20	1		03/09/17 19:45	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: **MW1D-GW-022817** Lab ID: **10380572002** Collected: 02/28/17 14:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	5.1J	ug/L	10.0	0.87	1		03/07/17 08:23	74-84-0	
Ethene	1.7J	ug/L	10.0	0.77	1		03/07/17 08:23	74-85-1	
Methane	10.8	ug/L	10.0	0.49	1		03/07/17 08:23	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/03/17 13:52	03/06/17 08:19	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:19	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/03/17 13:52	03/06/17 08:19	7440-38-2	
Barium, Dissolved	77.5	ug/L	10.0	0.20	1	03/03/17 13:52	03/06/17 08:19	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/03/17 13:52	03/06/17 08:19	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/03/17 13:52	03/06/17 08:19	7440-43-9	
Calcium, Dissolved	51200	ug/L	500	15.8	1	03/03/17 13:52	03/06/17 08:19	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/03/17 13:52	03/06/17 08:19	7440-47-3	
Cobalt, Dissolved	2.7J	ug/L	10.0	0.51	1	03/03/17 13:52	03/06/17 08:19	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/03/17 13:52	03/06/17 08:19	7440-50-8	
Iron, Dissolved	3140	ug/L	50.0	18.0	1	03/03/17 13:52	03/06/17 08:19	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/03/17 13:52	03/06/17 08:19	7439-92-1	
Magnesium, Dissolved	12800	ug/L	500	7.4	1	03/03/17 13:52	03/06/17 08:19	7439-95-4	
Manganese, Dissolved	707	ug/L	5.0	0.33	1	03/03/17 13:52	03/06/17 08:19	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/03/17 13:52	03/06/17 08:19	7440-02-0	
Potassium, Dissolved	3350	ug/L	2500	26.1	1	03/03/17 13:52	03/06/17 08:19	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/03/17 13:52	03/06/17 08:19	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/03/17 13:52	03/06/17 08:19	7440-22-4	
Sodium, Dissolved	12200	ug/L	1000	12.0	1	03/03/17 13:52	03/06/17 08:19	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/03/17 13:52	03/06/17 08:19	7440-28-0	
Vanadium, Dissolved	0.77J	ug/L	15.0	0.39	1	03/03/17 13:52	03/06/17 08:19	7440-62-2	
Zinc, Dissolved	2.1J	ug/L	20.0	1.4	1	03/03/17 13:52	03/06/17 08:19	7440-66-6	B
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 14:55	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 18:25	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 18:25	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:25	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 18:25	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 18:25	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:25	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 18:25	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 18:25	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 18:25	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 18:25	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 18:25	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 18:25	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 18:25	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 18:25	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: MW1D-GW-022817 **Lab ID: 10380572002** Collected: 02/28/17 14:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 18:25	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 18:25	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 18:25	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 18:25	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 18:25	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 18:25	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 18:25	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 18:25	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 18:25	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 18:25	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 18:25	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 18:25	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 18:25	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 18:25	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 18:25	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 18:25	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 18:25	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 18:25	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 18:25	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 18:25	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 18:25	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 18:25	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 18:25	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 18:25	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 18:25	74-83-9	
Carbon disulfide	1.4	ug/L	1.0	0.20	1		03/03/17 18:25	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 18:25	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 18:25	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 18:25	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 18:25	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 18:25	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 18:25	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 18:25	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 18:25	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 18:25	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 18:25	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 18:25	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 18:25	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 18:25	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 18:25	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 18:25	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 18:25	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 18:25	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 18:25	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 18:25	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 18:25	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: **MW1D-GW-022817** Lab ID: **10380572002** Collected: 02/28/17 14:40 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 18:25	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 18:25	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:25	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 18:25	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 18:25	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 18:25	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 18:25	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 18:25	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 18:25	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 18:25	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 18:25	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 18:25	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 18:25	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 18:25	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 18:25	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 18:25	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 18:25	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 18:25	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 18:25	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 18:25	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 18:25	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/03/17 18:25	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 18:25	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	190	mg/L	5.0	1.4	1		03/11/17 12:36		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	253	mg/L	10.0	5.0	1		03/04/17 18:38		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/07/17 14:16	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	1.9	mg/L	1.2	0.10	1		03/02/17 14:32	16887-00-6	B
Nitrate as N	0.043J	mg/L	0.10	0.013	1		03/02/17 14:32	14797-55-8	
Sulfate	1.5	mg/L	1.2	0.16	1		03/02/17 14:32	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.1	mg/L	1.0	0.20	1		03/09/17 19:59	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: TRIP BLANK **Lab ID: 10380572003** Collected: 02/28/17 08:00 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 14:42	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 14:42	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 14:42	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 14:42	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 14:42	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 14:42	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 14:42	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 14:42	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 14:42	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 14:42	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 14:42	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 14:42	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 14:42	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 14:42	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 14:42	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 14:42	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 14:42	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 14:42	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 14:42	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 14:42	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 14:42	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 14:42	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 14:42	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 14:42	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 14:42	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 14:42	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 14:42	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 14:42	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 14:42	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 14:42	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 14:42	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 14:42	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 14:42	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 14:42	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 14:42	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 14:42	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 14:42	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 14:42	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 14:42	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 14:42	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 14:42	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 14:42	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 14:42	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 14:42	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 14:42	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 14:42	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Sample: TRIP BLANK **Lab ID: 10380572003** Collected: 02/28/17 08:00 Received: 03/02/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 14:42	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 14:42	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 14:42	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 14:42	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 14:42	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 14:42	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 14:42	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 14:42	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 14:42	1634-04-4	
Methylene Chloride	0.44J	ug/L	4.0	0.097	1		03/03/17 14:42	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 14:42	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 14:42	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 14:42	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 14:42	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 14:42	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 14:42	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 14:42	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 14:42	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 14:42	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 14:42	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 14:42	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 14:42	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 14:42	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 14:42	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 14:42	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 14:42	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 14:42	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 14:42	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 14:42	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 14:42	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 14:42	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 14:42	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 14:42	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 14:42	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/03/17 14:42	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 14:42	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/17 14:42	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

QC Batch: 462821

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 2530548

Matrix: Water

Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/07/17 07:51	
Ethene	ug/L	<0.77	10.0	0.77	03/07/17 07:51	
Methane	ug/L	1.7J	10.0	0.49	03/07/17 07:51	

LABORATORY CONTROL SAMPLE & LCSD: 2530549

2530550

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	111	112	98	98	85-115	0	20	
Ethene	ug/L	106	105	104	99	98	85-115	0	20	
Methane	ug/L	60.7	59.0	59.2	97	98	85-115	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530552

2530553

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.87	114	114	176	161	155	142	30-150	9	20	M1
Ethene	ug/L	<0.77	106	106	159	146	150	138	30-150	9	20	
Methane	ug/L	1.7J	60.7	60.7	94.2	86.2	152	139	30-150	9	20	M1

SAMPLE DUPLICATE: 2530551

Parameter	Units	10380572001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	8.6J	8.7J		20	
Ethene	ug/L	2.4J	2.4J		20	
Methane	ug/L	78.6	77.4	2	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

QC Batch: 462506

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 2528988

Matrix: Water

Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/14/17 14:39	

LABORATORY CONTROL SAMPLE: 2528989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528990 2528991

Parameter	Units	10380721001		2528990		2528991		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Mercury, Dissolved	ug/L	<0.031	5	5	5	5.2	4.7	105	95	80-120	10	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

QC Batch: 462430 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 2528598 Matrix: Water
Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/06/17 07:29	
Antimony, Dissolved	ug/L	2.6J	20.0	2.5	03/06/17 07:29	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/06/17 07:29	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/06/17 07:29	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/06/17 07:29	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/06/17 07:29	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/06/17 07:29	
Chromium, Dissolved	ug/L	5.8J	10.0	2.0	03/06/17 07:29	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/06/17 07:29	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/06/17 07:29	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/06/17 07:29	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/06/17 07:29	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/06/17 07:29	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/06/17 07:29	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/06/17 07:29	
Potassium, Dissolved	ug/L	71.8J	2500	26.1	03/06/17 07:29	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/06/17 07:29	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/06/17 07:29	
Sodium, Dissolved	ug/L	51.5J	1000	12.0	03/06/17 07:29	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/06/17 07:29	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/06/17 07:29	
Zinc, Dissolved	ug/L	5.8J	20.0	1.4	03/06/17 07:29	

LABORATORY CONTROL SAMPLE: 2528599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20200	101	80-120	
Antimony, Dissolved	ug/L	1000	1010	101	80-120	
Arsenic, Dissolved	ug/L	1000	1030	103	80-120	
Barium, Dissolved	ug/L	1000	998	100	80-120	
Beryllium, Dissolved	ug/L	1000	1020	102	80-120	
Cadmium, Dissolved	ug/L	1000	997	100	80-120	
Calcium, Dissolved	ug/L	20000	19300	97	80-120	
Chromium, Dissolved	ug/L	1000	988	99	80-120	
Cobalt, Dissolved	ug/L	1000	983	98	80-120	
Copper, Dissolved	ug/L	1000	947	95	80-120	
Iron, Dissolved	ug/L	20000	19700	98	80-120	
Lead, Dissolved	ug/L	1000	982	98	80-120	
Magnesium, Dissolved	ug/L	20000	19600	98	80-120	
Manganese, Dissolved	ug/L	1000	994	99	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

LABORATORY CONTROL SAMPLE: 2528599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1000	100	80-120	
Potassium, Dissolved	ug/L	20000	19400	97	80-120	
Selenium, Dissolved	ug/L	1000	1060	106	80-120	
Silver, Dissolved	ug/L	500	485	97	80-120	
Sodium, Dissolved	ug/L	20000	18700	93	80-120	
Thallium, Dissolved	ug/L	1000	1000	100	80-120	
Vanadium, Dissolved	ug/L	1000	957	96	80-120	
Zinc, Dissolved	ug/L	1000	1020	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528600 2528601

Parameter	Units	10380558001		2528601		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Aluminum, Dissolved	ug/L	1540	20000	20000	23500	24000	110	112	75-125	2	20
Antimony, Dissolved	ug/L	<2.5	1000	1000	1060	1080	106	108	75-125	2	20
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1090	1110	108	111	75-125	3	20
Barium, Dissolved	ug/L	77.8	1000	1000	1120	1140	104	106	75-125	2	20
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1080	1100	108	110	75-125	2	20
Cadmium, Dissolved	ug/L	<0.30	1000	1000	1040	1060	104	106	75-125	2	20
Calcium, Dissolved	ug/L	63600	20000	20000	86200	86300	113	113	75-125	0	20
Chromium, Dissolved	ug/L	<2.0	1000	1000	1030	1040	103	104	75-125	2	20
Cobalt, Dissolved	ug/L	2.0J	1000	1000	1000	1020	100	102	75-125	2	20
Copper, Dissolved	ug/L	0.99J	1000	1000	1000	1030	100	103	75-125	2	20
Iron, Dissolved	ug/L	3010	20000	20000	23600	24000	103	105	75-125	2	20
Lead, Dissolved	ug/L	3.0J	1000	1000	1000	1020	100	102	75-125	2	20
Magnesium, Dissolved	ug/L	14300	20000	20000	35300	35800	105	107	75-125	1	20
Manganese, Dissolved	ug/L	111	1000	1000	1140	1160	103	105	75-125	2	20
Nickel, Dissolved	ug/L	<1.6	1000	1000	1010	1030	101	103	75-125	2	20
Potassium, Dissolved	ug/L	1450J	20000	20000	22400	22800	105	107	75-125	2	20
Selenium, Dissolved	ug/L	<4.5	1000	1000	1090	1110	109	111	75-125	2	20
Silver, Dissolved	ug/L	<0.28	500	500	510	519	102	104	75-125	2	20
Sodium, Dissolved	ug/L	12900	20000	20000	33000	33500	101	103	75-125	1	20
Thallium, Dissolved	ug/L	5.9J	1000	1000	1030	1050	102	105	75-125	3	20
Vanadium, Dissolved	ug/L	7.7J	1000	1000	1010	1030	101	102	75-125	2	20
Zinc, Dissolved	ug/L	19.4J	1000	1000	1050	1070	103	105	75-125	2	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

QC Batch: 462413 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380572001, 10380572002, 10380572003

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380572001, 10380572002, 10380572003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 13:35	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 13:35	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 13:35	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 13:35	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 13:35	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 13:35	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 13:35	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 13:35	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 13:35	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 13:35	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 13:35	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 13:35	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 13:35	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 13:35	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 13:35	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 13:35	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 13:35	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 13:35	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 13:35	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 13:35	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 13:35	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 13:35	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 13:35	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 13:35	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 13:35	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 13:35	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 13:35	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 13:35	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 13:35	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 13:35	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 13:35	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 13:35	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 13:35	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380572001, 10380572002, 10380572003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 13:35	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 13:35	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 13:35	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 13:35	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 13:35	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 13:35	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 13:35	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 13:35	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 13:35	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 13:35	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 13:35	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 13:35	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 13:35	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 13:35	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 13:35	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 13:35	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 13:35	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 13:35	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 13:35	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 13:35	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 13:35	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 13:35	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 13:35	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 13:35	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 13:35	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 13:35	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 13:35	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 13:35	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 13:35	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/03/17 13:35	
4-Bromofluorobenzene (S)	%	104	75-125		03/03/17 13:35	
Toluene-d8 (S)	%	104	75-125		03/03/17 13:35	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

LABORATORY CONTROL SAMPLE & LCSD: 2528545		2528546		LCS	LCSD	% Rec	LCSD	% Rec	Max	
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	% Rec	% Rec	Limits	RPD	RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	19.8	95	99	75-125	4	30	
1,1,1-Trichloroethane	ug/L	20	20.1	20.2	101	101	74-125	0	30	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	21.3	97	107	67-131	10	30	
1,1,2-Trichloroethane	ug/L	20	19.9	20.5	99	103	75-125	3	30	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	18.1	92	90	75-125	1	30	
1,1-Dichloroethane	ug/L	20	22.2	22.7	111	113	74-125	2	30	
1,1-Dichloroethene	ug/L	20	19.4	19.1	97	96	74-125	1	30	
1,1-Dichloropropene	ug/L	20	19.9	20.5	99	103	74-125	3	30	
1,2,3-Trichlorobenzene	ug/L	20	16.7	18.4	83	92	63-131	10	30	
1,2,3-Trichloropropane	ug/L	20	19.4	21.1	97	105	73-125	8	30	
1,2,4-Trichlorobenzene	ug/L	20	15.5	16.7	77	83	66-126	8	30	
1,2,4-Trimethylbenzene	ug/L	20	17.2	18.3	86	91	74-129	6	30	
1,2-Dibromo-3-chloropropane	ug/L	50	37.9	44.0	76	88	54-129	15	30	
1,2-Dibromoethane (EDB)	ug/L	20	18.9	20.3	94	101	75-125	7	30	
1,2-Dichlorobenzene	ug/L	20	17.3	18.6	87	93	75-125	7	30	
1,2-Dichloroethane	ug/L	20	18.8	19.2	94	96	75-125	2	30	
1,2-Dichloroethene (Total)	ug/L	40	39.5	40.0	99	100	75-125	1	30	
1,2-Dichloropropane	ug/L	20	20.6	21.4	103	107	75-125	4	30	
1,3,5-Trimethylbenzene	ug/L	20	18.2	19.2	91	96	73-127	6	30	
1,3-Dichlorobenzene	ug/L	20	17.6	18.6	88	93	75-125	5	30	
1,3-Dichloropropane	ug/L	20	20.2	21.1	101	105	69-125	4	30	
1,4-Dichlorobenzene	ug/L	20	17.4	18.4	87	92	75-125	6	30	
1,4-Dioxane (p-Dioxane)	ug/L	400	308	396	77	99	70-130	25	30	
2,2,4-Trimethylpentane	ug/L	20	18.5	19.0	92	95	67-138	3	30	
2,2-Dichloropropane	ug/L	20	20.7	20.6	104	103	69-125	1	30	
2-Butanone (MEK)	ug/L	100	94.9	105	95	105	48-145	10	30	
2-Chlorotoluene	ug/L	20	20.4	20.6	102	103	74-125	1	30	
2-Hexanone	ug/L	100	101	114	101	114	63-135	12	30	
4-Chlorotoluene	ug/L	20	19.1	20.2	96	101	73-125	6	30	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	115	104	115	53-138	10	30	
Acetone	ug/L	100	96.1	117	96	117	70-142	19	30	
Acrolein	ug/L	200	189	208	94	104	44-150	10	30	
Acrylonitrile	ug/L	200	208	226	104	113	68-125	8	30	
Benzene	ug/L	20	20.1	20.0	100	100	65-125	0	30	
Bromobenzene	ug/L	20	17.9	19.0	90	95	75-125	6	30	
Bromochloromethane	ug/L	20	19.3	19.9	96	100	75-125	3	30	
Bromodichloromethane	ug/L	20	19.4	20.1	97	100	73-125	3	30	
Bromoform	ug/L	20	16.8	17.7	84	88	69-125	5	30	
Bromomethane	ug/L	20	13.3	15.4	66	77	40-136	15	30	
Carbon disulfide	ug/L	20	18.4	18.3	92	92	36-150	1	30	
Carbon tetrachloride	ug/L	20	18.9	19.3	95	97	70-125	2	30	
Chlorobenzene	ug/L	20	18.5	19.1	93	95	75-125	3	30	
Chloroethane	ug/L	20	23.4	22.7	117	114	67-141	3	30	
Chloroform	ug/L	20	18.8	19.0	94	95	75-125	1	30	
Chloromethane	ug/L	20	20.0	20.7	100	104	50-150	4	30	
cis-1,2-Dichloroethene	ug/L	20	19.6	20.1	98	100	75-125	3	30	
cis-1,3-Dichloropropene	ug/L	20	20.3	21.4	102	107	75-125	5	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

LABORATORY CONTROL SAMPLE & LCSD:		2528545		2528546							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.4	19.4	92	97	75-125	5	30		
Dibromomethane	ug/L	20	18.2	19.0	91	95	75-129	4	30		
Dichlorodifluoromethane	ug/L	20	19.4	19.0	97	95	59-135	2	30		
Dichlorofluoromethane	ug/L	20	20.6	20.6	103	103	74-130	0	30		
Diisopropyl ether	ug/L	20	20.2	21.7	101	109	71-125	7	30		
Ethyl-tert-butyl ether	ug/L	20	20.1	21.6	101	108	70-130	7	30		
Ethylbenzene	ug/L	20	18.7	19.3	94	97	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	16.9	17.5	84	88	72-126	4	30		
Isopropylbenzene (Cumene)	ug/L	20	16.9	17.4	84	87	71-136	3	30		
m&p-Xylene	ug/L	40	38.6	39.2	96	98	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.4	20.6	97	103	73-127	6	30		
Methylene Chloride	ug/L	20	20.2	20.9	101	105	68-128	4	30		
n-Butylbenzene	ug/L	20	17.1	17.9	85	89	70-126	4	30		
n-Propylbenzene	ug/L	20	18.9	19.9	94	100	67-131	5	30		
Naphthalene	ug/L	20	13.0	14.8	65	74	52-134	14	30		
o-Xylene	ug/L	20	17.6	18.1	88	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	17.6	18.2	88	91	74-125	3	30		
sec-Butylbenzene	ug/L	20	17.2	18.2	86	91	69-134	6	30		
Styrene	ug/L	20	18.0	18.9	90	94	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.9	20.0	95	100	70-130	6	30		
tert-Butyl Alcohol	ug/L	200	170	222	85	111	66-128	26	30		
tert-Butylbenzene	ug/L	20	16.1	17.3	81	87	71-128	7	30		
Tetrachloroethene	ug/L	20	17.1	17.4	85	87	74-125	2	30		
Tetrahydrofuran	ug/L	200	174	211	87	106	64-142	20	30		
Toluene	ug/L	20	18.3	18.7	92	94	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	19.9	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	21.1	103	106	75-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	51.3	92	103	54-133	11	30		
Trichloroethene	ug/L	20	19.6	19.7	98	98	75-125	1	30		
Trichlorofluoromethane	ug/L	20	19.4	19.1	97	96	75-126	2	30		
Vinyl acetate	ug/L	20	22.9	24.4	115	122	67-126	6	30		
Vinyl chloride	ug/L	20	22.0	22.2	110	111	72-125	1	30		
Xylene (Total)	ug/L	60	56.1	57.3	94	96	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				101	99	75-125				
4-Bromofluorobenzene (S)	%				99	102	75-125				
Toluene-d8 (S)	%				100	100	75-125				

MATRIX SPIKE SAMPLE:		2528547		10380479001							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	18.7	93	75-127					
1,1,1-Trichloroethane	ug/L	<0.057	20	20.4	102	66-142					
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.4	102	70-131					
1,1,2-Trichloroethane	ug/L	<0.064	20	19.5	98	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.4	107	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	22.3	111	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.4	102	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	21.3	106	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.2	91	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.5	103	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	16.6	83	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	17.2	86	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.7	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.1	96	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	17.6	88	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	18.2	91	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	39.9	100	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.6	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	17.9	89	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	17.8	89	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.0	100	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	17.2	86	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	361	90	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	22.1	110	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.3	106	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	97.1	97	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.5	97	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.0	95	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	110	110	60-147	
Acetone	ug/L	<0.64	100	96.5	97	59-150	
Acrolein	ug/L	<2.1	200	280	140	30-150	
Acrylonitrile	ug/L	<0.49	200	210	105	41-148	
Benzene	ug/L	<0.042	20	19.5	97	61-138	
Bromobenzene	ug/L	<0.087	20	18.1	90	74-130	
Bromochloromethane	ug/L	<0.082	20	19.0	95	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	97	66-136	
Bromoform	ug/L	<0.11	20	17.1	86	71-125	
Bromomethane	ug/L	<0.20	20	16.8	84	30-150	
Carbon disulfide	ug/L	<0.20	20	19.3	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	19.7	99	68-140	
Chlorobenzene	ug/L	<0.066	20	18.4	92	75-132	
Chloroethane	ug/L	<0.12	20	24.4	122	55-150	
Chloroform	ug/L	<0.21	20	17.9	90	64-139	
Chloromethane	ug/L	<0.080	20	22.4	112	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.6	98	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.0	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.8	94	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	23.8	119	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.6	108	58-150	
Diisopropyl ether	ug/L	<0.050	20	20.8	104	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.0	100	30-140	
Ethylbenzene	ug/L	<0.075	20	18.7	93	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	19.6	98	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	16.5	83	65-146	
m&p-Xylene	ug/L	<0.11	40	37.8	95	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.7	98	63-134	
Methylene Chloride	ug/L	<0.097	20	20.1	100	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.1	91	67-134	
n-Propylbenzene	ug/L	<0.049	20	18.9	94	62-142	
Naphthalene	ug/L	<0.064	20	14.0	70	41-150	
o-Xylene	ug/L	<0.044	20	17.6	88	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	17.8	89	64-137	
sec-Butylbenzene	ug/L	<0.094	20	17.8	89	65-142	
Styrene	ug/L	<0.056	20	17.7	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.3	96	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	198	99	59-138	
tert-Butylbenzene	ug/L	<0.051	20	16.7	84	69-135	
Tetrachloroethene	ug/L	<0.13	20	17.5	87	62-142	
Tetrahydrofuran	ug/L	<1.5	200	187	94	55-150	
Toluene	ug/L	<0.059	20	18.4	92	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.3	102	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.7	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50.1	100	31-150	
Trichloroethene	ug/L	<0.044	20	19.8	99	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	22.2	111	63-150	
Vinyl acetate	ug/L	<0.12	20	23.1	116	30-150	
Vinyl chloride	ug/L	<0.098	20	24.8	124	58-150	
Xylene (Total)	ug/L	<0.15	60	55.5	92	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.6	19.0	93	95	75-127	2	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	20.9	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	19.8	19.8	99	99	70-131	0	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.9	19.2	94	96	75-128	2	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.2	21.4	106	107	54-150	1	30
1,1-Dichloroethane	ug/L	<0.055	20	20	23.2	22.9	116	114	58-147	1	30
1,1-Dichloroethene	ug/L	<0.069	20	20	20.4	20.5	102	102	49-150	0	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.3	21.7	106	108	58-147	2	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	16.4	17.6	82	88	57-139	7	30

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Parameter	Units	10380722001		2528827		2528828		% Rec	% Rec	Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec						
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.2	19.9	96	99	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	15.3	16.3	77	81	55-136	6	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.6	86	88	67-138	2	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	40.0	41.0	80	82	63-136	2	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.9	19.1	94	96	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.5	17.9	88	89	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	18.6	94	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.4	40.6	99	101	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.5	19.7	102	99	63-138	4	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.3	18.7	91	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.3	18.0	87	90	75-125	4	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	19.8	20.2	99	101	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.2	17.3	86	86	70-126	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	337	361	84	90	54-145	7	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	19.1	20.5	96	103	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	18.1	17.9	90	90	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	95.5	95.0	95	95	50-144	0	30		
2-Chlorotoluene	ug/L	<0.084	20	20	19.7	20.6	99	103	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	106	108	106	108	43-150	2	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.2	19.4	96	97	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	107	108	107	108	60-147	1	30		
Acetone	ug/L	<0.64	100	100	98.9	97.6	99	98	59-150	1	30		
Acrolein	ug/L	<2.1	200	200	255	254	128	127	30-150	1	30		
Acrylonitrile	ug/L	<0.49	200	200	214	210	107	105	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.8	20.1	99	100	61-138	1	30		
Bromobenzene	ug/L	<0.087	20	20	18.1	18.3	91	91	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	19.2	19.0	96	95	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.1	18.8	96	94	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	16.0	16.6	80	83	71-125	4	30		
Bromomethane	ug/L	<0.20	20	20	15.6	18.5	78	93	30-150	17	30		
Carbon disulfide	ug/L	<0.20	20	20	18.6	18.8	93	94	30-150	1	30		
Carbon tetrachloride	ug/L	2.5	20	20	22.4	22.9	100	102	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	18.6	18.6	93	93	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	24.1	25.0	120	125	55-150	4	30		
Chloroform	ug/L	0.35J	20	20	18.7	19.1	92	94	64-139	2	30		
Chloromethane	ug/L	<0.080	20	20	23.7	23.7	119	119	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.7	20.0	99	100	62-138	1	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.3	17.9	92	90	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	18.1	18.6	90	93	74-125	3	30		
Dibromomethane	ug/L	<0.14	20	20	17.7	17.0	88	85	66-138	4	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	22.7	23.6	114	118	53-150	4	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.2	22.1	106	111	58-150	4	30		
Diisopropyl ether	ug/L	<0.050	20	20	21.3	21.0	107	105	50-139	2	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.6	20.6	103	103	30-140	0	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Ethylbenzene	ug/L	<0.075	20	20	19.0	19.0	95	95	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	16.3	18.4	81	92	63-139	12	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.0	17.2	85	86	65-146	1	30	
m&p-Xylene	ug/L	<0.11	40	40	38.2	38.7	96	97	72-142	1	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.6	19.9	98	99	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	20.3	19.6	101	98	49-143	4	30	
n-Butylbenzene	ug/L	<0.16	20	20	16.6	17.7	83	89	67-134	7	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.2	95	96	62-142	2	30	
Naphthalene	ug/L	<0.064	20	20	13.8	14.7	69	73	41-150	6	30	
o-Xylene	ug/L	<0.044	20	20	17.7	18.2	89	91	66-138	2	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	16.5	17.1	83	86	64-137	4	30	
sec-Butylbenzene	ug/L	<0.094	20	20	17.4	17.9	87	89	65-142	3	30	
Styrene	ug/L	<0.056	20	20	16.9	16.3	84	81	61-142	3	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.1	19.3	96	96	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	202	207	101	103	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.5	17.1	82	85	69-135	4	30	
Tetrachloroethene	ug/L	<0.13	20	20	16.9	17.4	84	87	62-142	3	30	
Tetrahydrofuran	ug/L	<1.5	200	200	186	188	93	94	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.1	18.3	91	92	66-132	1	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.7	20.6	99	103	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.6	20.0	98	100	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	42.9	43.8	86	88	31-150	2	30	
Trichloroethene	ug/L	<0.044	20	20	19.6	20.3	98	101	64-142	3	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	22.5	108	113	63-150	4	30	
Vinyl acetate	ug/L	<0.12	20	20	19.4	18.8	97	94	30-150	3	30	
Vinyl chloride	ug/L	<0.098	20	20	24.0	25.2	120	126	58-150	5	30	
Xylene (Total)	ug/L	<0.15	60	60	56.0	56.9	93	95	70-140	2	30	
1,2-Dichloroethane-d4 (S)	%						102	101	75-125			
4-Bromofluorobenzene (S)	%						103	104	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

QC Batch: 463569 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 2534756 Matrix: Water
Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	03/11/17 11:13	

LABORATORY CONTROL SAMPLE & LCSD: 2534757 2534758

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	38.7	38.6	97	96	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534759 2534760

Parameter	Units	10380530003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	100	40	40	141	138	103	93	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534761 2534762

Parameter	Units	10380679006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	128	40	40	165	166	92	93	80-120	0	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

QC Batch: 462565

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 2529406

Matrix: Water

Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	17.0	10.0	5.0	03/04/17 18:38	

LABORATORY CONTROL SAMPLE: 2529407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 2529408

Parameter	Units	10380466001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	238	249	5	10	

SAMPLE DUPLICATE: 2529409

Parameter	Units	10380356007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	255	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

QC Batch: 75925

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 320148

Matrix: Water

Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/07/17 14:15	

LABORATORY CONTROL SAMPLE: 320149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 320151

Parameter	Units	10380721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.0050	.2	0.13	67	75-125	M1

SAMPLE DUPLICATE: 320150

Parameter	Units	10380721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.0050	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

QC Batch: 462271

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 2527813

Matrix: Water

Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.27J	1.2	0.10	03/02/17 15:02	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/02/17 15:02	
Sulfate	mg/L	<0.16	1.2	0.16	03/02/17 15:02	

LABORATORY CONTROL SAMPLE: 2527814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	12.2	98	90-110	
Nitrate as N	mg/L	1	0.99	99	90-110	
Sulfate	mg/L	12.5	11.9	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2527815 2527816

Parameter	Units	10380558001		2527815		2527816		% Rec	% Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MS Spike Conc.	MS Result	MS Spike Conc.	MS Result	MS Spike Conc.						
Chloride	mg/L	28.0	62.5	62.5	90.3	88.4	100	96	90-110	2	20		
Nitrate as N	mg/L	13.2	5	5	17.8	17.7	91	90	90-110	0	20		
Sulfate	mg/L	61.2	62.5	62.5	124	121	100	96	90-110	2	20		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

QC Batch: 107784 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380572001, 10380572002

METHOD BLANK: 426695 Matrix: Water
Associated Lab Samples: 10380572001, 10380572002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/09/17 18:26	

LABORATORY CONTROL SAMPLE: 426696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426697 426698

Parameter	Units	10380882003		MS		MSD		% Rec		Max		Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Total Organic Carbon	mg/L	0.99J	25	25	25	26.7	27.2	103	105	80-120	2	20 H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426699 426700

Parameter	Units	10380873002		MS		MSD		% Rec		Max		Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Total Organic Carbon	mg/L	3.2	25	25	25	29.0	29.1	103	103	80-120	0	20

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis
PASI-N Pace Analytical Services - New Orleans
PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

H1 Analysis conducted outside the recognized method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380572

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380572

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380572001	MW2D-GW-022817	RSK 175	462821		
10380572002	MW1D-GW-022817	RSK 175	462821		
10380572001	MW2D-GW-022817	EPA 3010	462430	6010C Met	462504
10380572002	MW1D-GW-022817	EPA 3010	462430	6010C Met	462504
10380572001	MW2D-GW-022817	EPA 7470A	462506	EPA 7470A	462761
10380572002	MW1D-GW-022817	EPA 7470A	462506	EPA 7470A	462761
10380572001	MW2D-GW-022817	EPA 8260B	462413		
10380572002	MW1D-GW-022817	EPA 8260B	462413		
10380572003	TRIP BLANK	EPA 8260B	462413		
10380572001	MW2D-GW-022817	SM 2320B	463569		
10380572002	MW1D-GW-022817	SM 2320B	463569		
10380572001	MW2D-GW-022817	SM 2540C	462565		
10380572002	MW1D-GW-022817	SM 2540C	462565		
10380572001	MW2D-GW-022817	SM 4500-S-2 D	75925		
10380572002	MW1D-GW-022817	SM 4500-S-2 D	75925		
10380572001	MW2D-GW-022817	EPA 300.0	462271		
10380572002	MW1D-GW-022817	EPA 300.0	462271		
10380572001	MW2D-GW-022817	SM 5310C	107784		
10380572002	MW1D-GW-022817	SM 5310C	107784		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CHZM Hill **Project #:** _____

WO# : 10380572

 10380572

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____
Tracking Number: 7046 3372 1984
Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No
Packing Material: Bubble Wrap Bubble Bags None Other: _____

Optional: Proj. Due Date: _____ Proj. Name: _____
Temp Blank? Yes No

Thermometer Used: 151401163 151401164 **Type of ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.2 **Cooler Temp Corrected (°C):** 1.3 **Biological Tissue Frozen?** Yes No N/A
 Temp should be above freezing to 6°C **Correction Factor:** +0.1 **Date and Initials of Person Examining Contents:** RC 3/2/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.	
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.	
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.	
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.	
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.	Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.	<input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample #	<u>2/2</u> <u>2/2</u>
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed:	Lot # of added preservative:
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.	
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.	<u>only 2 trip blanks</u>
Pace Trip Blank Lot # (if purchased): <u>110912</u>			

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ **Field Data Required?** Yes No

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:20</u>	Temp: <u>1.2</u>	Corrected Temp: <u>1.3</u>
Time: <u>11:40</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review:

JENNI GROSS Date: 03/02/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

Project _____

WO#: 2051218

PM: ADC

Due Date: 03/16/17

CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 03-04-17 JAB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Client Name: Pace - MIV Project #: _____

WO# : 1283679
PM: CLJ Due Date: **03/16/17**
CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: hazmat Temp Blank? Yes No
 Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read °C: 1.9 Cooler Temp Corrected °C: 1.8 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: 0.3 Date and Initials of Person Examining Contents: JPC 3/3/17

Comments: MJ 3/6/17

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____
 Field Data Required? Yes No

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N
 Project Manager Review: [Signature] Date: 3-6-17
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 17, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10380721

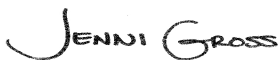
Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on March 17th 2017 to report only total alkalinity by method 2320 for samples 10380721-001 and -002.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414
 A2LA Certification #: 2926.01
 Alabama Certification #: 40770
 Alaska Contaminated Sites Certification #: UST-078
 Alaska DW Certification #: MN00064
 Arizona Certification #: AZ0014
 Arkansas Certification #: 88-0680
 California Certification #: MN00064
 CNMI Saipan Certification #: MP0003
 Colorado Certification #: MN00064
 Connecticut Certification #: PH-0256
 EPA Region 8 Certification #: 8TMS-L
 Florida Certification #: E87605
 Georgia Certification #: 959
 Guam EPA Certification #: MN00064
 Hawaii Certification #: MN00064
 Idaho Certification #: MN00064
 Illinois Certification #: 200011
 Indiana Certification #: C-MN-01
 Iowa Certification #: 368
 Kansas Certification #: E-10167
 Kentucky DW Certification #: 90062
 Kentucky WW Certification #: 90062
 Louisiana DEQ Certification #: 03086
 Louisiana DW Certification #: MN00064
 Maine Certification #: MN00064
 Maryland Certification #: 322
 Michigan Certification #: 9909

Minnesota Certification #: 027-053-137
 Mississippi Certification #: MN00064
 Montana Certification #: CERT0092
 Nebraska Certification #: NE-OS-18-06
 Nevada Certification #: MN00064
 New Hampshire Certification #: 2081
 New Jersey Certification #: MN002
 New York Certification #: 11647
 North Carolina DW Certification #: 27700
 North Carolina WW Certification #: 530
 North Dakota Certification #: R-036
 Ohio DW Certification #: 41244
 Ohio VAP Certification #: CL101
 Oklahoma Certification #: 9507
 Oregon NwTPH Certification #: MN300001
 Oregon Secondary Certification #: MN200001
 Pennsylvania Certification #: 68-00563
 Puerto Rico Certification #: MN00064
 South Carolina Certification #: 74003001
 Tennessee Certification #: TN02818
 Texas Certification #: T104704192
 Utah Certification #: MN00064
 Virginia Certification #: 460163
 Washington Certification #: C486
 West Virginia DW Certification #: 9952 C
 West Virginia WW Certification #: 382
 Wisconsin Certification #: 999407970
 Wyoming via EPA Region 8 Certification #: 8TMS-L

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
 California Certification #2973
 Alaska Certification UST-107
 Alaska Certification UST-107
 California Certification #2973
 Alaska Certification #MN01084
 Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445
 North Dakota Certification: # R-203
 Wisconsin DNR Certification #: 998027470
 WA Department of Ecology Lab ID# C1007
 Nevada DNR #MN010842015-1
 Oklahoma Department of Environmental Quality
 California Certification #2973

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
 11277CA
 Florida Department of Health (NELAC): E87595
 Illinois Environmental Protection Agency: 0025721
 Kansas Department of Health and Environment (NELAC):
 E-10266
 Louisiana Dept. of Environmental Quality (NELAC/LELAP):
 02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
 Texas Commission on Env. Quality (NELAC):
 T104704405-09-TX
 U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
 00119
 Commonwealth of Virginia (TNI): 480246

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380721001	MW6D-GW-030117	Water	03/01/17 15:10	03/03/17 09:45
10380721002	FD-030117	Water	03/01/17 10:00	03/03/17 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380721001	MW6D-GW-030117	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10380721002	FD-030117	SM 5310C	CRE	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
	EPA 300.0	KEO	3	PASI-M	
	SM 5310C	CRE	1	PASI-V	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380721001	MW6D-GW-030117					
RSK 175	Methane	1.7J	ug/L	10.0	03/07/17 09:56	
6010C Met	Barium, Dissolved	18.9	ug/L	10.0	03/07/17 05:18	
6010C Met	Calcium, Dissolved	34900	ug/L	500	03/07/17 05:18	
6010C Met	Magnesium, Dissolved	16000	ug/L	500	03/07/17 05:18	
6010C Met	Manganese, Dissolved	2.0J	ug/L	5.0	03/07/17 05:18	
6010C Met	Potassium, Dissolved	6870	ug/L	2500	03/07/17 05:18	
6010C Met	Sodium, Dissolved	18800	ug/L	1000	03/07/17 05:18	
6010C Met	Thallium, Dissolved	6.8J	ug/L	20.0	03/07/17 05:18	
6010C Met	Vanadium, Dissolved	15.9	ug/L	15.0	03/07/17 05:18	
6010C Met	Zinc, Dissolved	1.6J	ug/L	20.0	03/07/17 05:18	
SM 2320B	Alkalinity, Total as CaCO3	178	mg/L	5.0	03/14/17 09:59	
SM 2540C	Total Dissolved Solids	223	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	4.0	mg/L	1.2	03/03/17 13:45	
EPA 300.0	Nitrate as N	0.82	mg/L	0.10	03/03/17 13:45	M1
EPA 300.0	Sulfate	5.4	mg/L	1.2	03/03/17 13:45	
SM 5310C	Total Organic Carbon	0.48J	mg/L	1.0	03/15/17 12:26	
10380721002	FD-030117					
RSK 175	Methane	1.5J	ug/L	10.0	03/07/17 10:17	
6010C Met	Barium, Dissolved	19.1	ug/L	10.0	03/07/17 05:38	
6010C Met	Calcium, Dissolved	34800	ug/L	500	03/07/17 05:38	
6010C Met	Iron, Dissolved	24.4J	ug/L	50.0	03/07/17 05:38	
6010C Met	Magnesium, Dissolved	16000	ug/L	500	03/07/17 05:38	
6010C Met	Manganese, Dissolved	1.8J	ug/L	5.0	03/07/17 05:38	
6010C Met	Potassium, Dissolved	6830	ug/L	2500	03/07/17 05:38	
6010C Met	Sodium, Dissolved	18800	ug/L	1000	03/07/17 05:38	
6010C Met	Thallium, Dissolved	4.9J	ug/L	20.0	03/07/17 05:38	
6010C Met	Vanadium, Dissolved	16.2	ug/L	15.0	03/07/17 05:38	
6010C Met	Zinc, Dissolved	3.7J	ug/L	20.0	03/07/17 05:38	
SM 2320B	Alkalinity, Total as CaCO3	179	mg/L	5.0	03/14/17 10:13	
SM 2540C	Total Dissolved Solids	241	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	4.0	mg/L	1.2	03/03/17 15:27	
EPA 300.0	Nitrate as N	0.80	mg/L	0.10	03/03/17 15:27	H1
EPA 300.0	Sulfate	5.3	mg/L	1.2	03/03/17 15:27	
SM 5310C	Total Organic Carbon	0.51J	mg/L	1.0	03/09/17 20:25	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 75925

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380721001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 320151)
- Sulfide, Total

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- FD-030117 (Lab ID: 10380721002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462466

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380721001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2528778)
 - Nitrate as N
- MSD (Lab ID: 2528779)
 - Nitrate as N

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

2 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Sample: MW6D-GW-030117 **Lab ID: 10380721001** Collected: 03/01/17 15:10 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 09:56	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 09:56	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		03/07/17 09:56	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/06/17 11:03	03/07/17 05:18	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/06/17 11:03	03/07/17 05:18	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/06/17 11:03	03/07/17 05:18	7440-38-2	
Barium, Dissolved	18.9	ug/L	10.0	0.20	1	03/06/17 11:03	03/07/17 05:18	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/06/17 11:03	03/07/17 05:18	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/06/17 11:03	03/07/17 05:18	7440-43-9	
Calcium, Dissolved	34900	ug/L	500	15.8	1	03/06/17 11:03	03/07/17 05:18	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/06/17 11:03	03/07/17 05:18	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/06/17 11:03	03/07/17 05:18	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/06/17 11:03	03/07/17 05:18	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/06/17 11:03	03/07/17 05:18	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/06/17 11:03	03/07/17 05:18	7439-92-1	
Magnesium, Dissolved	16000	ug/L	500	7.4	1	03/06/17 11:03	03/07/17 05:18	7439-95-4	
Manganese, Dissolved	2.0J	ug/L	5.0	0.33	1	03/06/17 11:03	03/07/17 05:18	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/06/17 11:03	03/07/17 05:18	7440-02-0	
Potassium, Dissolved	6870	ug/L	2500	26.1	1	03/06/17 11:03	03/07/17 05:18	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/06/17 11:03	03/07/17 05:18	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/06/17 11:03	03/07/17 05:18	7440-22-4	
Sodium, Dissolved	18800	ug/L	1000	12.0	1	03/06/17 11:03	03/07/17 05:18	7440-23-5	
Thallium, Dissolved	6.8J	ug/L	20.0	3.8	1	03/06/17 11:03	03/07/17 05:18	7440-28-0	
Vanadium, Dissolved	15.9	ug/L	15.0	0.39	1	03/06/17 11:03	03/07/17 05:18	7440-62-2	
Zinc, Dissolved	1.6J	ug/L	20.0	1.4	1	03/06/17 11:03	03/07/17 05:18	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 15:02	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	178	mg/L	5.0	1.4	1		03/14/17 09:59		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	223	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/07/17 14:20	18496-25-8	M1
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	4.0	mg/L	1.2	0.10	1		03/03/17 13:45	16887-00-6	
Nitrate as N	0.82	mg/L	0.10	0.013	1		03/03/17 13:45	14797-55-8	M1
Sulfate	5.4	mg/L	1.2	0.16	1		03/03/17 13:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Sample: MW6D-GW-030117 **Lab ID: 10380721001** Collected: 03/01/17 15:10 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.48J	mg/L	1.0	0.20	1		03/15/17 12:26	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Sample: FD-030117 **Lab ID: 10380721002** Collected: 03/01/17 10:00 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 10:17	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 10:17	74-85-1	
Methane	1.5J	ug/L	10.0	0.49	1		03/07/17 10:17	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/06/17 11:03	03/07/17 05:38	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/06/17 11:03	03/07/17 05:38	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/06/17 11:03	03/07/17 05:38	7440-38-2	
Barium, Dissolved	19.1	ug/L	10.0	0.20	1	03/06/17 11:03	03/07/17 05:38	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/06/17 11:03	03/07/17 05:38	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/06/17 11:03	03/07/17 05:38	7440-43-9	
Calcium, Dissolved	34800	ug/L	500	15.8	1	03/06/17 11:03	03/07/17 05:38	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/06/17 11:03	03/07/17 05:38	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/06/17 11:03	03/07/17 05:38	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/06/17 11:03	03/07/17 05:38	7440-50-8	
Iron, Dissolved	24.4J	ug/L	50.0	18.0	1	03/06/17 11:03	03/07/17 05:38	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/06/17 11:03	03/07/17 05:38	7439-92-1	
Magnesium, Dissolved	16000	ug/L	500	7.4	1	03/06/17 11:03	03/07/17 05:38	7439-95-4	
Manganese, Dissolved	1.8J	ug/L	5.0	0.33	1	03/06/17 11:03	03/07/17 05:38	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/06/17 11:03	03/07/17 05:38	7440-02-0	
Potassium, Dissolved	6830	ug/L	2500	26.1	1	03/06/17 11:03	03/07/17 05:38	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/06/17 11:03	03/07/17 05:38	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/06/17 11:03	03/07/17 05:38	7440-22-4	
Sodium, Dissolved	18800	ug/L	1000	12.0	1	03/06/17 11:03	03/07/17 05:38	7440-23-5	
Thallium, Dissolved	4.9J	ug/L	20.0	3.8	1	03/06/17 11:03	03/07/17 05:38	7440-28-0	
Vanadium, Dissolved	16.2	ug/L	15.0	0.39	1	03/06/17 11:03	03/07/17 05:38	7440-62-2	
Zinc, Dissolved	3.7J	ug/L	20.0	1.4	1	03/06/17 11:03	03/07/17 05:38	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/06/17 11:17	03/14/17 15:09	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	179	mg/L	5.0	1.4	1		03/14/17 10:13		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	241	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/07/17 14:21	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	4.0	mg/L	1.2	0.10	1		03/03/17 15:27	16887-00-6	
Nitrate as N	0.80	mg/L	0.10	0.013	1		03/03/17 15:27	14797-55-8	H1
Sulfate	5.3	mg/L	1.2	0.16	1		03/03/17 15:27	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Sample: FD-030117 **Lab ID: 10380721002** Collected: 03/01/17 10:00 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.51J	mg/L	1.0	0.20	1		03/09/17 20:25	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10380721

QC Batch: 462821 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 2530548 Matrix: Water
Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/07/17 07:51	
Ethene	ug/L	<0.77	10.0	0.77	03/07/17 07:51	
Methane	ug/L	1.7J	10.0	0.49	03/07/17 07:51	

LABORATORY CONTROL SAMPLE & LCSD: 2530549

Parameter	Units	2530550								Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	
Ethane	ug/L	114	111	112	98	98	85-115	0	20	
Ethene	ug/L	106	105	104	99	98	85-115	0	20	
Methane	ug/L	60.7	59.0	59.2	97	98	85-115	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530552

Parameter	Units	2530553										
		10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.87	114	114	176	161	155	142	30-150	9	20	M1
Ethene	ug/L	<0.77	106	106	159	146	150	138	30-150	9	20	
Methane	ug/L	1.7J	60.7	60.7	94.2	86.2	152	139	30-150	9	20	M1

SAMPLE DUPLICATE: 2530551

Parameter	Units	10380572001 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	8.6J	8.7J		20	
Ethene	ug/L	2.4J	2.4J		20	
Methane	ug/L	78.6	77.4	2	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

QC Batch: 462506

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 2528988

Matrix: Water

Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/14/17 14:39	

LABORATORY CONTROL SAMPLE: 2528989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528990 2528991

Parameter	Units	10380721001		2528990		2528991		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result					MS % Rec
Mercury, Dissolved	ug/L	<0.031	5	5	5	5.2	4.7	105	95	80-120	10	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10380721

QC Batch: 462517 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 2529032 Matrix: Water
Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/07/17 05:10	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/07/17 05:10	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/07/17 05:10	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/07/17 05:10	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/07/17 05:10	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/07/17 05:10	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/07/17 05:10	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/07/17 05:10	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/07/17 05:10	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/07/17 05:10	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/07/17 05:10	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/07/17 05:10	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/07/17 05:10	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/07/17 05:10	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/07/17 05:10	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/07/17 05:10	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/07/17 05:10	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/07/17 05:10	
Sodium, Dissolved	ug/L	18.7J	1000	12.0	03/07/17 05:10	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/07/17 05:10	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/07/17 05:10	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/07/17 05:10	

LABORATORY CONTROL SAMPLE: 2529033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	21000	105	80-120	
Antimony, Dissolved	ug/L	1000	1020	102	80-120	
Arsenic, Dissolved	ug/L	1000	1040	104	80-120	
Barium, Dissolved	ug/L	1000	1040	104	80-120	
Beryllium, Dissolved	ug/L	1000	1040	104	80-120	
Cadmium, Dissolved	ug/L	1000	1040	104	80-120	
Calcium, Dissolved	ug/L	20000	20300	102	80-120	
Chromium, Dissolved	ug/L	1000	1020	102	80-120	
Cobalt, Dissolved	ug/L	1000	1020	102	80-120	
Copper, Dissolved	ug/L	1000	1030	103	80-120	
Iron, Dissolved	ug/L	20000	20400	102	80-120	
Lead, Dissolved	ug/L	1000	1050	105	80-120	
Magnesium, Dissolved	ug/L	20000	20700	104	80-120	
Manganese, Dissolved	ug/L	1000	1030	103	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10380721

LABORATORY CONTROL SAMPLE: 2529033

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	1020	102	80-120	
Potassium, Dissolved	ug/L	20000	20100	101	80-120	
Selenium, Dissolved	ug/L	1000	1080	108	80-120	
Silver, Dissolved	ug/L	500	520	104	80-120	
Sodium, Dissolved	ug/L	20000	20000	100	80-120	
Thallium, Dissolved	ug/L	1000	996	100	80-120	
Vanadium, Dissolved	ug/L	1000	1010	101	80-120	
Zinc, Dissolved	ug/L	1000	1040	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529034 2529035

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10380721001 Result	Spike Conc.	Spike Conc.	MS Result						
Aluminum, Dissolved	ug/L	<13.5	20000	20000	21100	21300	106	106	75-125	1	20
Antimony, Dissolved	ug/L	<2.5	1000	1000	1040	1040	104	104	75-125	0	20
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1040	1050	104	105	75-125	1	20
Barium, Dissolved	ug/L	18.9	1000	1000	1050	1050	103	104	75-125	1	20
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1040	1050	104	105	75-125	1	20
Cadmium, Dissolved	ug/L	<0.30	1000	1000	1030	1040	103	104	75-125	1	20
Calcium, Dissolved	ug/L	34900	20000	20000	55000	55000	100	100	75-125	0	20
Chromium, Dissolved	ug/L	<2.0	1000	1000	1010	1020	101	102	75-125	1	20
Cobalt, Dissolved	ug/L	<0.51	1000	1000	1000	1010	100	101	75-125	1	20
Copper, Dissolved	ug/L	<0.89	1000	1000	1030	1040	103	104	75-125	1	20
Iron, Dissolved	ug/L	<18.0	20000	20000	20300	20400	101	102	75-125	0	20
Lead, Dissolved	ug/L	<1.9	1000	1000	1030	1040	103	104	75-125	1	20
Magnesium, Dissolved	ug/L	16000	20000	20000	36400	36600	102	103	75-125	1	20
Manganese, Dissolved	ug/L	2.0J	1000	1000	1020	1030	102	103	75-125	1	20
Nickel, Dissolved	ug/L	<1.6	1000	1000	996	1000	100	100	75-125	1	20
Potassium, Dissolved	ug/L	6870	20000	20000	27400	27500	103	103	75-125	0	20
Selenium, Dissolved	ug/L	<4.5	1000	1000	1070	1080	107	108	75-125	1	20
Silver, Dissolved	ug/L	<0.28	500	500	518	523	104	105	75-125	1	20
Sodium, Dissolved	ug/L	18800	20000	20000	38300	38400	98	98	75-125	0	20
Thallium, Dissolved	ug/L	6.8J	1000	1000	980	991	97	98	75-125	1	20
Vanadium, Dissolved	ug/L	15.9	1000	1000	1030	1040	101	102	75-125	1	20
Zinc, Dissolved	ug/L	1.6J	1000	1000	1010	1020	101	102	75-125	1	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

QC Batch: 463836

Analysis Method: SM 2320B

QC Batch Method: SM 2320B

Analysis Description: 2320B Alkalinity

Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 2535867

Matrix: Water

Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	03/14/17 09:42	

LABORATORY CONTROL SAMPLE & LCSD: 2535868

2535869

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	38.6	38.7	96	97	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535870

2535871

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	178	40	40	218	217	100	98	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535872

2535873

Parameter	Units	10380962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	27.1	40	40	61.8	62.1	87	87	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

QC Batch: 462657

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 2529864

Matrix: Water

Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	03/08/17 14:50	

LABORATORY CONTROL SAMPLE: 2529865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	972	97	80-120	

SAMPLE DUPLICATE: 2529866

Parameter	Units	10380679002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2700	2700	0	10	

SAMPLE DUPLICATE: 2529867

Parameter	Units	10380721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	223	230	3	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10380721

QC Batch: 75925 Analysis Method: SM 4500-S-2 D
QC Batch Method: SM 4500-S-2 D Analysis Description: 4500S2D Sulfide, Total
Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 320148 Matrix: Water
Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/07/17 14:15	

LABORATORY CONTROL SAMPLE: 320149

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	92	90-110	

MATRIX SPIKE SAMPLE: 320151

Parameter	Units	10380721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.0050	.2	0.13	67	75-125	M1

SAMPLE DUPLICATE: 320150

Parameter	Units	10380721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.0050	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

QC Batch: 462466 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10380721001, 10380721002

METHOD BLANK: 2528776 Matrix: Water

Associated Lab Samples: 10380721001, 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	03/03/17 14:48	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/03/17 14:48	
Sulfate	mg/L	<0.16	1.2	0.16	03/03/17 14:48	

LABORATORY CONTROL SAMPLE: 2528777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Nitrate as N	mg/L	1	0.92	92	90-110	
Sulfate	mg/L	12.5	12.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528778 2528779

Parameter	Units	2528778		2528779		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							MSD Result
Chloride	mg/L	4.0	12.5	12.5	15.4	15.3	91	90	90-110	1	20	
Nitrate as N	mg/L	0.82	1	1	1.6	1.6	83	82	90-110	1	20	M1
Sulfate	mg/L	5.4	12.5	12.5	17.0	16.8	93	92	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev
Pace Project No.: 10380721

QC Batch: 107784 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380721002

METHOD BLANK: 426695 Matrix: Water
Associated Lab Samples: 10380721002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/09/17 18:26	

LABORATORY CONTROL SAMPLE: 426696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426697 426698

Parameter	Units	10380882003 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	0.99J	25	25	26.7	27.2	103	105	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426699 426700

Parameter	Units	10380873002 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.								
Total Organic Carbon	mg/L	3.2	25	25	29.0	29.1	103	103	80-120	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

QC Batch: 108202 Analysis Method: SM 5310C
 QC Batch Method: SM 5310C Analysis Description: 5310C TOC
 Associated Lab Samples: 10380721001

METHOD BLANK: 428304 Matrix: Water
 Associated Lab Samples: 10380721001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/15/17 12:00	

LABORATORY CONTROL SAMPLE: 428305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.2	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 428306 428307

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.48J	25	25	26.6	26.8	105	105	80-120	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H1 Analysis conducted outside the recognized method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman Rev

Pace Project No.: 10380721

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380721001	MW6D-GW-030117	RSK 175	462821		
10380721002	FD-030117	RSK 175	462821		
10380721001	MW6D-GW-030117	EPA 3010	462517	6010C Met	462707
10380721002	FD-030117	EPA 3010	462517	6010C Met	462707
10380721001	MW6D-GW-030117	EPA 7470A	462506	EPA 7470A	462761
10380721002	FD-030117	EPA 7470A	462506	EPA 7470A	462761
10380721001	MW6D-GW-030117	SM 2320B	463836		
10380721002	FD-030117	SM 2320B	463836		
10380721001	MW6D-GW-030117	SM 2540C	462657		
10380721002	FD-030117	SM 2540C	462657		
10380721001	MW6D-GW-030117	SM 4500-S-2 D	75925		
10380721002	FD-030117	SM 4500-S-2 D	75925		
10380721001	MW6D-GW-030117	EPA 300.0	462466		
10380721002	FD-030117	EPA 300.0	462466		
10380721001	MW6D-GW-030117	SM 5310C	108202		
10380721002	FD-030117	SM 5310C	107784		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

103580721

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information: Company: CH2M Hill Address: 999 W. Riverside Ave, Suite 500 Spokane, WA 99201 Email: mark.Ochsner@ch2n.com Phone: _____ Fax: _____ Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day	Section B Required Project Information: Report To: Mark Ochsner, Brad Ostapkowicz Copy To: Steve Demus Purchase Order #: Project Name: UPRR, Freeman Project #: 1497	Section C Invoice Information: Attention: Gary Honeyman Company Name: UPRR Address: CAS Pace Quote: Pace Project Manager: Pace Profile #: 36447 / 6	Regulatory Agency: State / Location: WA / Freeman
---	--	--	---

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left) CODE Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil O Wipe WP Air AR Other OT Tissue TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives									Analysis Test Y/N	Requested Analysis Filtered (Y/N)													Residual Chlorine (Y/N)	
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH + Zn scrubber	Na2S2O3	Methanol	Other	Low Level VOCs by 8260		60107/470 TAL Metals + Hg	Hexachlorobenzene	Ferrous Iron 3500FE	COD 410.4	BOD 10360W	Chloride, Sulfate, Nitrate 300	Sulfide 4500	2320 Alkalinity (Speciated)	TOC 5310	2540 TDS	Methane, Ethane, Ethone PSK17				
				DATE	TIME	DATE	TIME																											
1	MWGD-GW-030117		WTG			3/1/17	1510	27	X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	MS/MSD 001	
2	FD-030117		LL			L	1000	9	X	X	X	X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Field Dup 002		
3																																		
4																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		
11																																		
12																																		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	AKB/CH2M	3/2/17	1443	[Signature]	3/3/17	9450.2	Y Y Y
						0.8	

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:						
SIGNATURE of SAMPLER:	DATE Signed:					

Sample Condition Upon Receipt - ESI Tech Specs Client Name: CH2M Hill Project #: **WO#: 10380721**



10380721

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other:
 Tracking Number: 7222 2739 9496, 7500

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read (°C): 0.108 Cooler Temp Corrected (°C): 0.2, 0.9 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 5°C Correction Factor: +0.1 Date and Initials of Person Examining Contents: RG 3/3/17

USDA Regulated Soil (N/A, water sample) Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>4/4</u> <u>4/4</u>
(HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during log, record temp every 20 mins		
Opened Time: <u>9:45</u>	Temp: <u>0.1, 0.8</u>	Corrected Temp: <u>0.2, 0.9</u>
Time: _____	put in cooler	
Time: <u>10:37</u>	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS Date: 03/03/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

Chain of Custody

WO#: 2051217



Workorder: 10380721

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/3/2017

Results Requested By: 3/17/2017

Report To		Subcontract To				Requested Analysis												LAB USE ONLY														
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426		Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333				5636267 / 4500 Sulfide												MS/MSD Requested														
Item		Sample ID	Sample Type	Collect Date/Time	Lab ID														Matrix	Other												
1	MW6D-GW-030117	RQS	3/1/2017 15:10	10380721001	Water														3		X											
2	FD-030117	PS	3/1/2017 10:00	10380721002	Water														1		X											
3																																
4																																

Transfers						Comments
Released By	Date/Time	Received By	Date/Time			
<i>Alanna Oup</i> Pace MN	3/3/17 1530	<i>Fed EY</i>				Total of 4-BP2Z to be sent
<i>Fed EY</i>	3/4/17 905	<i>Fed EY</i>	3/4/17 905			

Cooler Temperature on Receipt 1.4 °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon I

WO#: 2051217

PM: ADC

Due Date: 03/17/17

CLIENT: PASI-MINN

Pro

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 03-04-17 MS

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____



Sample Condition
Upon Receipt

Client Name: Pace - MIV Project #: _____

WO#: 1283677
PM: CLJ Due Date: 03/20/1
CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: HAZMAT Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.5 Cooler Temp Corrected °C: 1.8 Biological Tissue Frozen? Yes No NA
Temp should be above freezing to 6°C Correction Factor: -0.3 Date and Initials of Person Examining Contents: JPC 3/3/17

Comments: MT 3/6/17

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: [Signature] Date: 3-6-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 06, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 03, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380722001	MW6D-GW-030117	Water	03/01/17 15:10	03/03/17 09:45
10380722002	FD-030117	Water	03/01/17 10:00	03/03/17 09:45
10380722003	Trip Blank	Water	03/01/17 00:00	03/03/17 09:45

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380722001	MW6D-GW-030117	EPA 8260B	DJB	83	PASI-M
10380722002	FD-030117	EPA 8260B	DJB	83	PASI-M
10380722003	Trip Blank	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380722001	MW6D-GW-030117					
EPA 8260B	Carbon tetrachloride	2.5	ug/L	0.50	03/03/17 16:56	
EPA 8260B	Chloroform	0.35J	ug/L	1.0	03/03/17 16:56	
10380722002	FD-030117					
EPA 8260B	Carbon tetrachloride	2.5	ug/L	0.50	03/03/17 18:48	
EPA 8260B	Chloroform	0.33J	ug/L	1.0	03/03/17 18:48	
10380722003	Trip Blank					
EPA 8260B	Methylene Chloride	0.40J	ug/L	4.0	03/03/17 15:04	

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 06, 2017

General Information:

3 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Sample: MW6D-GW-030117 Lab ID: 10380722001 Collected: 03/01/17 15:10 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 16:56	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 16:56	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 16:56	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 16:56	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 16:56	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 16:56	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 16:56	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 16:56	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 16:56	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 16:56	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 16:56	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 16:56	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 16:56	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 16:56	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 16:56	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 16:56	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 16:56	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 16:56	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 16:56	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 16:56	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 16:56	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 16:56	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 16:56	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 16:56	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 16:56	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 16:56	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 16:56	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 16:56	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 16:56	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 16:56	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 16:56	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 16:56	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 16:56	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 16:56	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 16:56	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 16:56	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 16:56	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 16:56	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 16:56	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 16:56	75-15-0	
Carbon tetrachloride	2.5	ug/L	0.50	0.079	1		03/03/17 16:56	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 16:56	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 16:56	75-00-3	
Chloroform	0.35J	ug/L	1.0	0.21	1		03/03/17 16:56	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 16:56	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 16:56	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Sample: MW6D-GW-030117 **Lab ID: 10380722001** Collected: 03/01/17 15:10 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 16:56	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 16:56	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 16:56	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 16:56	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 16:56	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 16:56	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 16:56	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 16:56	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 16:56	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 16:56	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 16:56	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 16:56	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 16:56	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 16:56	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 16:56	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 16:56	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 16:56	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 16:56	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 16:56	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 16:56	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 16:56	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 16:56	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 16:56	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 16:56	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 16:56	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 16:56	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 16:56	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 16:56	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 16:56	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 16:56	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 16:56	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 16:56	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 16:56	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 16:56	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/03/17 16:56	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 16:56	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/03/17 16:56	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Sample: **FD-030117** Lab ID: **10380722002** Collected: 03/01/17 10:00 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 18:48	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 18:48	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:48	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 18:48	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 18:48	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:48	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 18:48	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 18:48	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 18:48	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 18:48	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 18:48	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 18:48	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 18:48	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 18:48	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 18:48	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 18:48	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 18:48	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 18:48	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 18:48	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 18:48	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 18:48	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 18:48	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 18:48	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 18:48	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 18:48	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 18:48	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 18:48	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 18:48	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 18:48	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 18:48	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 18:48	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 18:48	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 18:48	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 18:48	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 18:48	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 18:48	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 18:48	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 18:48	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 18:48	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 18:48	75-15-0	
Carbon tetrachloride	2.5	ug/L	0.50	0.079	1		03/03/17 18:48	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 18:48	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 18:48	75-00-3	
Chloroform	0.33J	ug/L	1.0	0.21	1		03/03/17 18:48	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 18:48	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 18:48	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Sample: FD-030117 **Lab ID: 10380722002** Collected: 03/01/17 10:00 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 18:48	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 18:48	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 18:48	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 18:48	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 18:48	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 18:48	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 18:48	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 18:48	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 18:48	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/03/17 18:48	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 18:48	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 18:48	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 18:48	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 18:48	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 18:48	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 18:48	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 18:48	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 18:48	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 18:48	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 18:48	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 18:48	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 18:48	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 18:48	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 18:48	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 18:48	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 18:48	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 18:48	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 18:48	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 18:48	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 18:48	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 18:48	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 18:48	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 18:48	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 18:48	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/03/17 18:48	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 18:48	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/03/17 18:48	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Sample: Trip Blank **Lab ID: 10380722003** Collected: 03/01/17 00:00 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 15:04	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/03/17 15:04	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 15:04	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/03/17 15:04	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/03/17 15:04	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/03/17 15:04	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/03/17 15:04	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/03/17 15:04	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/03/17 15:04	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/03/17 15:04	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/03/17 15:04	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/03/17 15:04	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/03/17 15:04	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/03/17 15:04	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/03/17 15:04	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/03/17 15:04	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/03/17 15:04	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/03/17 15:04	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/03/17 15:04	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/03/17 15:04	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/03/17 15:04	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/03/17 15:04	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/03/17 15:04	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/03/17 15:04	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/03/17 15:04	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/03/17 15:04	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/03/17 15:04	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/03/17 15:04	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/03/17 15:04	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/03/17 15:04	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/03/17 15:04	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/03/17 15:04	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/03/17 15:04	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/03/17 15:04	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/03/17 15:04	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/03/17 15:04	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/03/17 15:04	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/03/17 15:04	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/03/17 15:04	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/03/17 15:04	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/03/17 15:04	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/03/17 15:04	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/03/17 15:04	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/03/17 15:04	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/03/17 15:04	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/03/17 15:04	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Sample: Trip Blank **Lab ID: 10380722003** Collected: 03/01/17 00:00 Received: 03/03/17 09:45 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/03/17 15:04	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/03/17 15:04	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/03/17 15:04	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/03/17 15:04	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/03/17 15:04	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/03/17 15:04	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/03/17 15:04	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/03/17 15:04	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/03/17 15:04	1634-04-4	
Methylene Chloride	0.40J	ug/L	4.0	0.097	1		03/03/17 15:04	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/03/17 15:04	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/03/17 15:04	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/03/17 15:04	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/03/17 15:04	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/03/17 15:04	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/03/17 15:04	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/03/17 15:04	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/03/17 15:04	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/03/17 15:04	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/03/17 15:04	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/03/17 15:04	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/03/17 15:04	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/03/17 15:04	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/03/17 15:04	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/03/17 15:04	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/03/17 15:04	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/03/17 15:04	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/03/17 15:04	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/03/17 15:04	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/03/17 15:04	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/03/17 15:04	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/03/17 15:04	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/03/17 15:04	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/03/17 15:04	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/03/17 15:04	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/03/17 15:04	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		03/03/17 15:04	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

QC Batch: 462413 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380722001, 10380722002, 10380722003

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380722001, 10380722002, 10380722003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/03/17 13:35	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/03/17 13:35	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/03/17 13:35	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/03/17 13:35	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/03/17 13:35	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/03/17 13:35	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/03/17 13:35	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/03/17 13:35	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/03/17 13:35	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/03/17 13:35	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/03/17 13:35	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/03/17 13:35	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/03/17 13:35	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/03/17 13:35	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/03/17 13:35	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/03/17 13:35	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/03/17 13:35	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/03/17 13:35	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/03/17 13:35	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/03/17 13:35	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/03/17 13:35	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/03/17 13:35	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/03/17 13:35	
Acetone	ug/L	<0.64	20.0	0.64	03/03/17 13:35	
Acrolein	ug/L	<2.1	10.0	2.1	03/03/17 13:35	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/03/17 13:35	
Benzene	ug/L	<0.042	0.50	0.042	03/03/17 13:35	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/03/17 13:35	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/03/17 13:35	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/03/17 13:35	
Bromoform	ug/L	<0.11	4.0	0.11	03/03/17 13:35	
Bromomethane	ug/L	<0.20	4.0	0.20	03/03/17 13:35	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/03/17 13:35	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/03/17 13:35	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

METHOD BLANK: 2528544 Matrix: Water
Associated Lab Samples: 10380722001, 10380722002, 10380722003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/03/17 13:35	
Chloroethane	ug/L	<0.12	1.0	0.12	03/03/17 13:35	
Chloroform	ug/L	<0.21	1.0	0.21	03/03/17 13:35	
Chloromethane	ug/L	<0.080	4.0	0.080	03/03/17 13:35	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/03/17 13:35	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/03/17 13:35	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/03/17 13:35	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/03/17 13:35	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/03/17 13:35	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/03/17 13:35	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/03/17 13:35	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/03/17 13:35	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/03/17 13:35	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/03/17 13:35	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/03/17 13:35	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/03/17 13:35	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/03/17 13:35	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/03/17 13:35	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/03/17 13:35	
Naphthalene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/03/17 13:35	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/03/17 13:35	MN
Styrene	ug/L	<0.056	4.0	0.056	03/03/17 13:35	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/03/17 13:35	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/03/17 13:35	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/03/17 13:35	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/03/17 13:35	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/03/17 13:35	
Toluene	ug/L	<0.059	0.50	0.059	03/03/17 13:35	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/03/17 13:35	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/03/17 13:35	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/03/17 13:35	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/03/17 13:35	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/03/17 13:35	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/03/17 13:35	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/03/17 13:35	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/03/17 13:35	
1,2-Dichloroethane-d4 (S)	%	103	75-125		03/03/17 13:35	
4-Bromofluorobenzene (S)	%	104	75-125		03/03/17 13:35	
Toluene-d8 (S)	%	104	75-125		03/03/17 13:35	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

LABORATORY CONTROL SAMPLE & LCSD: 2528545		2528546									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.0	19.8	95	99	75-125	4	30		
1,1,1-Trichloroethane	ug/L	20	20.1	20.2	101	101	74-125	0	30		
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	21.3	97	107	67-131	10	30		
1,1,2-Trichloroethane	ug/L	20	19.9	20.5	99	103	75-125	3	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.4	18.1	92	90	75-125	1	30		
1,1-Dichloroethane	ug/L	20	22.2	22.7	111	113	74-125	2	30		
1,1-Dichloroethene	ug/L	20	19.4	19.1	97	96	74-125	1	30		
1,1-Dichloropropene	ug/L	20	19.9	20.5	99	103	74-125	3	30		
1,2,3-Trichlorobenzene	ug/L	20	16.7	18.4	83	92	63-131	10	30		
1,2,3-Trichloropropane	ug/L	20	19.4	21.1	97	105	73-125	8	30		
1,2,4-Trichlorobenzene	ug/L	20	15.5	16.7	77	83	66-126	8	30		
1,2,4-Trimethylbenzene	ug/L	20	17.2	18.3	86	91	74-129	6	30		
1,2-Dibromo-3-chloropropane	ug/L	50	37.9	44.0	76	88	54-129	15	30		
1,2-Dibromoethane (EDB)	ug/L	20	18.9	20.3	94	101	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	17.3	18.6	87	93	75-125	7	30		
1,2-Dichloroethane	ug/L	20	18.8	19.2	94	96	75-125	2	30		
1,2-Dichloroethene (Total)	ug/L	40	39.5	40.0	99	100	75-125	1	30		
1,2-Dichloropropane	ug/L	20	20.6	21.4	103	107	75-125	4	30		
1,3,5-Trimethylbenzene	ug/L	20	18.2	19.2	91	96	73-127	6	30		
1,3-Dichlorobenzene	ug/L	20	17.6	18.6	88	93	75-125	5	30		
1,3-Dichloropropane	ug/L	20	20.2	21.1	101	105	69-125	4	30		
1,4-Dichlorobenzene	ug/L	20	17.4	18.4	87	92	75-125	6	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	308	396	77	99	70-130	25	30		
2,2,4-Trimethylpentane	ug/L	20	18.5	19.0	92	95	67-138	3	30		
2,2-Dichloropropane	ug/L	20	20.7	20.6	104	103	69-125	1	30		
2-Butanone (MEK)	ug/L	100	94.9	105	95	105	48-145	10	30		
2-Chlorotoluene	ug/L	20	20.4	20.6	102	103	74-125	1	30		
2-Hexanone	ug/L	100	101	114	101	114	63-135	12	30		
4-Chlorotoluene	ug/L	20	19.1	20.2	96	101	73-125	6	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	115	104	115	53-138	10	30		
Acetone	ug/L	100	96.1	117	96	117	70-142	19	30		
Acrolein	ug/L	200	189	208	94	104	44-150	10	30		
Acrylonitrile	ug/L	200	208	226	104	113	68-125	8	30		
Benzene	ug/L	20	20.1	20.0	100	100	65-125	0	30		
Bromobenzene	ug/L	20	17.9	19.0	90	95	75-125	6	30		
Bromochloromethane	ug/L	20	19.3	19.9	96	100	75-125	3	30		
Bromodichloromethane	ug/L	20	19.4	20.1	97	100	73-125	3	30		
Bromoform	ug/L	20	16.8	17.7	84	88	69-125	5	30		
Bromomethane	ug/L	20	13.3	15.4	66	77	40-136	15	30		
Carbon disulfide	ug/L	20	18.4	18.3	92	92	36-150	1	30		
Carbon tetrachloride	ug/L	20	18.9	19.3	95	97	70-125	2	30		
Chlorobenzene	ug/L	20	18.5	19.1	93	95	75-125	3	30		
Chloroethane	ug/L	20	23.4	22.7	117	114	67-141	3	30		
Chloroform	ug/L	20	18.8	19.0	94	95	75-125	1	30		
Chloromethane	ug/L	20	20.0	20.7	100	104	50-150	4	30		
cis-1,2-Dichloroethene	ug/L	20	19.6	20.1	98	100	75-125	3	30		
cis-1,3-Dichloropropene	ug/L	20	20.3	21.4	102	107	75-125	5	30		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

LABORATORY CONTROL SAMPLE & LCSD:		2528545		2528546							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	18.4	19.4	92	97	75-125	5	30		
Dibromomethane	ug/L	20	18.2	19.0	91	95	75-129	4	30		
Dichlorodifluoromethane	ug/L	20	19.4	19.0	97	95	59-135	2	30		
Dichlorofluoromethane	ug/L	20	20.6	20.6	103	103	74-130	0	30		
Diisopropyl ether	ug/L	20	20.2	21.7	101	109	71-125	7	30		
Ethyl-tert-butyl ether	ug/L	20	20.1	21.6	101	108	70-130	7	30		
Ethylbenzene	ug/L	20	18.7	19.3	94	97	75-125	3	30		
Hexachloro-1,3-butadiene	ug/L	20	16.9	17.5	84	88	72-126	4	30		
Isopropylbenzene (Cumene)	ug/L	20	16.9	17.4	84	87	71-136	3	30		
m&p-Xylene	ug/L	40	38.6	39.2	96	98	75-125	2	30		
Methyl-tert-butyl ether	ug/L	20	19.4	20.6	97	103	73-127	6	30		
Methylene Chloride	ug/L	20	20.2	20.9	101	105	68-128	4	30		
n-Butylbenzene	ug/L	20	17.1	17.9	85	89	70-126	4	30		
n-Propylbenzene	ug/L	20	18.9	19.9	94	100	67-131	5	30		
Naphthalene	ug/L	20	13.0	14.8	65	74	52-134	14	30		
o-Xylene	ug/L	20	17.6	18.1	88	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	17.6	18.2	88	91	74-125	3	30		
sec-Butylbenzene	ug/L	20	17.2	18.2	86	91	69-134	6	30		
Styrene	ug/L	20	18.0	18.9	90	94	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.9	20.0	95	100	70-130	6	30		
tert-Butyl Alcohol	ug/L	200	170	222	85	111	66-128	26	30		
tert-Butylbenzene	ug/L	20	16.1	17.3	81	87	71-128	7	30		
Tetrachloroethene	ug/L	20	17.1	17.4	85	87	74-125	2	30		
Tetrahydrofuran	ug/L	200	174	211	87	106	64-142	20	30		
Toluene	ug/L	20	18.3	18.7	92	94	75-125	2	30		
trans-1,2-Dichloroethene	ug/L	20	20.0	19.9	100	100	73-125	0	30		
trans-1,3-Dichloropropene	ug/L	20	20.5	21.1	103	106	75-125	3	30		
trans-1,4-Dichloro-2-butene	ug/L	50	45.9	51.3	92	103	54-133	11	30		
Trichloroethene	ug/L	20	19.6	19.7	98	98	75-125	1	30		
Trichlorofluoromethane	ug/L	20	19.4	19.1	97	96	75-126	2	30		
Vinyl acetate	ug/L	20	22.9	24.4	115	122	67-126	6	30		
Vinyl chloride	ug/L	20	22.0	22.2	110	111	72-125	1	30		
Xylene (Total)	ug/L	60	56.1	57.3	94	96	75-125	2	30		
1,2-Dichloroethane-d4 (S)	%				101	99	75-125				
4-Bromofluorobenzene (S)	%				99	102	75-125				
Toluene-d8 (S)	%				100	100	75-125				

MATRIX SPIKE SAMPLE:		2528547		10380479001							
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers				
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	18.7	93	75-127					
1,1,1-Trichloroethane	ug/L	<0.057	20	20.4	102	66-142					
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.4	102	70-131					
1,1,2-Trichloroethane	ug/L	<0.064	20	19.5	98	75-128					
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	21.4	107	54-150					

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	22.3	111	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	20.4	102	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	21.3	106	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	18.2	91	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.5	103	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	16.6	83	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	17.2	86	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	42.7	85	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	19.1	96	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	17.6	88	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	18.2	91	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	39.9	100	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	20.6	103	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	17.9	89	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	17.8	89	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.0	100	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	17.2	86	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	361	90	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	22.1	110	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	21.3	106	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	97.1	97	50-144	
2-Chlorotoluene	ug/L	<0.084	20	19.5	97	71-135	
2-Hexanone	ug/L	<0.19	100	108	108	43-150	
4-Chlorotoluene	ug/L	<0.048	20	19.0	95	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	110	110	60-147	
Acetone	ug/L	<0.64	100	96.5	97	59-150	
Acrolein	ug/L	<2.1	200	280	140	30-150	
Acrylonitrile	ug/L	<0.49	200	210	105	41-148	
Benzene	ug/L	<0.042	20	19.5	97	61-138	
Bromobenzene	ug/L	<0.087	20	18.1	90	74-130	
Bromochloromethane	ug/L	<0.082	20	19.0	95	65-137	
Bromodichloromethane	ug/L	<0.068	20	19.3	97	66-136	
Bromoform	ug/L	<0.11	20	17.1	86	71-125	
Bromomethane	ug/L	<0.20	20	16.8	84	30-150	
Carbon disulfide	ug/L	<0.20	20	19.3	96	30-150	
Carbon tetrachloride	ug/L	<0.079	20	19.7	99	68-140	
Chlorobenzene	ug/L	<0.066	20	18.4	92	75-132	
Chloroethane	ug/L	<0.12	20	24.4	122	55-150	
Chloroform	ug/L	<0.21	20	17.9	90	64-139	
Chloromethane	ug/L	<0.080	20	22.4	112	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	19.6	98	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.0	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	18.8	94	74-125	
Dibromomethane	ug/L	<0.14	20	17.9	90	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	23.8	119	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	21.6	108	58-150	
Diisopropyl ether	ug/L	<0.050	20	20.8	104	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

MATRIX SPIKE SAMPLE: 2528547		10380479001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	20.0	100	30-140	
Ethylbenzene	ug/L	<0.075	20	18.7	93	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	19.6	98	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	16.5	83	65-146	
m&p-Xylene	ug/L	<0.11	40	37.8	95	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	19.7	98	63-134	
Methylene Chloride	ug/L	<0.097	20	20.1	100	49-143	
n-Butylbenzene	ug/L	<0.16	20	18.1	91	67-134	
n-Propylbenzene	ug/L	<0.049	20	18.9	94	62-142	
Naphthalene	ug/L	<0.064	20	14.0	70	41-150	
o-Xylene	ug/L	<0.044	20	17.6	88	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	17.8	89	64-137	
sec-Butylbenzene	ug/L	<0.094	20	17.8	89	65-142	
Styrene	ug/L	<0.056	20	17.7	88	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	19.3	96	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	198	99	59-138	
tert-Butylbenzene	ug/L	<0.051	20	16.7	84	69-135	
Tetrachloroethene	ug/L	<0.13	20	17.5	87	62-142	
Tetrahydrofuran	ug/L	<1.5	200	187	94	55-150	
Toluene	ug/L	<0.059	20	18.4	92	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20.3	102	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20.7	103	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50.1	100	31-150	
Trichloroethene	ug/L	<0.044	20	19.8	99	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	22.2	111	63-150	
Vinyl acetate	ug/L	<0.12	20	23.1	116	30-150	
Vinyl chloride	ug/L	<0.098	20	24.8	124	58-150	
Xylene (Total)	ug/L	<0.15	60	55.5	92	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				99	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2528827		2528828									
Parameter	Units	10380722001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	18.6	19.0	93	95	75-127	2	30
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.5	20.9	103	105	66-142	2	30
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	19.8	19.8	99	99	70-131	0	30
1,1,2-Trichloroethane	ug/L	<0.064	20	20	18.9	19.2	94	96	75-128	2	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.2	21.4	106	107	54-150	1	30
1,1-Dichloroethane	ug/L	<0.055	20	20	23.2	22.9	116	114	58-147	1	30
1,1-Dichloroethene	ug/L	<0.069	20	20	20.4	20.5	102	102	49-150	0	30
1,1-Dichloropropene	ug/L	<0.082	20	20	21.3	21.7	106	108	58-147	2	30
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	16.4	17.6	82	88	57-139	7	30

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380722

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.2	19.9	96	99	71-127	3	30		
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	15.3	16.3	77	81	55-136	6	30		
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	17.3	17.6	86	88	67-138	2	30		
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	40.0	41.0	80	82	63-136	2	30		
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	18.9	19.1	94	96	74-125	1	30		
1,2-Dichlorobenzene	ug/L	<0.078	20	20	17.5	17.9	88	89	75-125	2	30		
1,2-Dichloroethane	ug/L	<0.072	20	20	18.9	18.6	94	93	63-133	2	30		
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.4	40.6	99	101	55-146	3	30		
1,2-Dichloropropane	ug/L	<0.066	20	20	20.5	19.7	102	99	63-138	4	30		
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	18.3	18.7	91	93	69-136	2	30		
1,3-Dichlorobenzene	ug/L	<0.085	20	20	17.3	18.0	87	90	75-125	4	30		
1,3-Dichloropropane	ug/L	<0.059	20	20	19.8	20.2	99	101	65-135	2	30		
1,4-Dichlorobenzene	ug/L	<0.081	20	20	17.2	17.3	86	86	70-126	0	30		
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	337	361	84	90	54-145	7	30		
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	19.1	20.5	96	103	30-150	7	30		
2,2-Dichloropropane	ug/L	<0.096	20	20	18.1	17.9	90	90	39-148	1	30		
2-Butanone (MEK)	ug/L	<1.1	100	100	95.5	95.0	95	95	50-144	0	30		
2-Chlorotoluene	ug/L	<0.084	20	20	19.7	20.6	99	103	71-135	4	30		
2-Hexanone	ug/L	<0.19	100	100	106	108	106	108	43-150	2	30		
4-Chlorotoluene	ug/L	<0.048	20	20	19.2	19.4	96	97	71-131	1	30		
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	107	108	107	108	60-147	1	30		
Acetone	ug/L	<0.64	100	100	98.9	97.6	99	98	59-150	1	30		
Acrolein	ug/L	<2.1	200	200	255	254	128	127	30-150	1	30		
Acrylonitrile	ug/L	<0.49	200	200	214	210	107	105	41-148	2	30		
Benzene	ug/L	<0.042	20	20	19.8	20.1	99	100	61-138	1	30		
Bromobenzene	ug/L	<0.087	20	20	18.1	18.3	91	91	74-130	1	30		
Bromochloromethane	ug/L	<0.082	20	20	19.2	19.0	96	95	65-137	1	30		
Bromodichloromethane	ug/L	<0.068	20	20	19.1	18.8	96	94	66-136	2	30		
Bromoform	ug/L	<0.11	20	20	16.0	16.6	80	83	71-125	4	30		
Bromomethane	ug/L	<0.20	20	20	15.6	18.5	78	93	30-150	17	30		
Carbon disulfide	ug/L	<0.20	20	20	18.6	18.8	93	94	30-150	1	30		
Carbon tetrachloride	ug/L	2.5	20	20	22.4	22.9	100	102	68-140	2	30		
Chlorobenzene	ug/L	<0.066	20	20	18.6	18.6	93	93	75-132	0	30		
Chloroethane	ug/L	<0.12	20	20	24.1	25.0	120	125	55-150	4	30		
Chloroform	ug/L	0.35J	20	20	18.7	19.1	92	94	64-139	2	30		
Chloromethane	ug/L	<0.080	20	20	23.7	23.7	119	119	73-150	0	30		
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.7	20.0	99	100	62-138	1	30		
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	18.3	17.9	92	90	70-125	2	30		
Dibromochloromethane	ug/L	<0.048	20	20	18.1	18.6	90	93	74-125	3	30		
Dibromomethane	ug/L	<0.14	20	20	17.7	17.0	88	85	66-138	4	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	22.7	23.6	114	118	53-150	4	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	21.2	22.1	106	111	58-150	4	30		
Diisopropyl ether	ug/L	<0.050	20	20	21.3	21.0	107	105	50-139	2	30		
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	20.6	20.6	103	103	30-140	0	30		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Parameter	Units	2528827		2528828		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380722001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result							
Ethylbenzene	ug/L	<0.075	20	20	19.0	19.0	95	95	66-141	0	30	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	16.3	18.4	81	92	63-139	12	30	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	17.0	17.2	85	86	65-146	1	30	
m&p-Xylene	ug/L	<0.11	40	40	38.2	38.7	96	97	72-142	1	30	
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.6	19.9	98	99	63-134	2	30	
Methylene Chloride	ug/L	<0.097	20	20	20.3	19.6	101	98	49-143	4	30	
n-Butylbenzene	ug/L	<0.16	20	20	16.6	17.7	83	89	67-134	7	30	
n-Propylbenzene	ug/L	<0.049	20	20	18.9	19.2	95	96	62-142	2	30	
Naphthalene	ug/L	<0.064	20	20	13.8	14.7	69	73	41-150	6	30	
o-Xylene	ug/L	<0.044	20	20	17.7	18.2	89	91	66-138	2	30	
p-Isopropyltoluene	ug/L	<0.064	20	20	16.5	17.1	83	86	64-137	4	30	
sec-Butylbenzene	ug/L	<0.094	20	20	17.4	17.9	87	89	65-142	3	30	
Styrene	ug/L	<0.056	20	20	16.9	16.3	84	81	61-142	3	30	
tert-Amylmethyl ether	ug/L	<0.073	20	20	19.1	19.3	96	96	65-125	1	30	
tert-Butyl Alcohol	ug/L	<0.89	200	200	202	207	101	103	59-138	2	30	
tert-Butylbenzene	ug/L	<0.051	20	20	16.5	17.1	82	85	69-135	4	30	
Tetrachloroethene	ug/L	<0.13	20	20	16.9	17.4	84	87	62-142	3	30	
Tetrahydrofuran	ug/L	<1.5	200	200	186	188	93	94	55-150	1	30	
Toluene	ug/L	<0.059	20	20	18.1	18.3	91	92	66-132	1	30	
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.7	20.6	99	103	48-150	4	30	
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.6	20.0	98	100	65-130	2	30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	42.9	43.8	86	88	31-150	2	30	
Trichloroethene	ug/L	<0.044	20	20	19.6	20.3	98	101	64-142	3	30	
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	22.5	108	113	63-150	4	30	
Vinyl acetate	ug/L	<0.12	20	20	19.4	18.8	97	94	30-150	3	30	
Vinyl chloride	ug/L	<0.098	20	20	24.0	25.2	120	126	58-150	5	30	
Xylene (Total)	ug/L	<0.15	60	60	56.0	56.9	93	95	70-140	2	30	
1,2-Dichloroethane-d4 (S)	%						102	101	75-125			
4-Bromofluorobenzene (S)	%						103	104	75-125			
Toluene-d8 (S)	%						98	99	75-125			

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380722

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380722001	MW6D-GW-030117	EPA 8260B	462413		
10380722002	FD-030117	EPA 8260B	462413		
10380722003	Trip Blank	EPA 8260B	462413		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10380722

Section A

Section B

Section C

Required Client Information:

Required Project Information:

Invoice Information:

Page : 1 of 1


Company: CH2M Hill	Report To: Mark Ochsner, Brad Ostapkowicz	Attention: Gary Honeyman
Address: 999 W. Riverside Ave, Suite 500 Spokane, WA 99201	Copy To: Steve Demus	Company Name: UPRR
Email: mark.Ochsner@ch2m.com	Purchase Order #:	Address: CAS
Phone: Fax:	Project Name: UPRR Freeman	Pace Quote:
Requested Due Date/Circle: 24 Hour / 5 Day / 10 Day	Project #: 1497	Pace Project Manager:
		Pace Profile #: 36447 / 1

Regulatory Agency
State / Location
WA / Freeman

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						ANALYSES TEST Y/N	Residual Chlorine (Y/N)						
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3			Methanol	Other				
				DATE	TIME	DATE	TIME																
1	MWGD-GW-030107	WT	G			3/1/17	1510	9															
2	ED-030117	L	I			1	1000	3															
3	Trip Blank																						
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
VOCs Low MDL	YKB/CH2M	3/2/17	1445	YKB/CH2M Pace	3/3/17	945	0.2	Y	Y	Y
							0.9			

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed (Y/N)	Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	DATE Signed:					
SIGNATURE of SAMPLER:						

Sample Condition Upon Receipt - ESI Tech Specs	Client Name: <u>CH2M Hill</u>	Project #: WO# : 10380722
		

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7222 2739 7496, 7500
 Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No Optional: Proj. Due Date: _____ Proj. Name: _____
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read (°C): 0.1, 0.8 Cooler Temp Corrected (°C): 0.2, 0.9 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 70.1 Date and Initials of Person Examining Contents: RG 3/3/17
 USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

			COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		12. <u>MW6D-GW-030107 on COC all HCL labeled MW6D-GW-030117</u>
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>			
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Sample #
Exceptions: <u>VOA</u> Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		Initial when completed: <u>RG 3/3/17</u>
Per method, VOA pH is checked after analysis			Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A		14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A		15. <u>RG 3/3/17 only 2 trip blanks</u>
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <u>110912</u>			

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____

Field Data Required? Yes No

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>10:17</u>	Temp: <u>0.1, 0.8</u>	Corrected Temp: <u>0.2, 0.9</u>
Time: <u>10:37</u>	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review:

JENNI GROSS

Date: 03/03/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 16, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

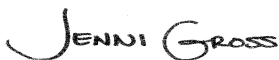
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
Alaska Certification UST-107
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322

Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785
Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203
Wisconsin DNR Certification # : 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380873001	MW6S-GW-030217	Water	03/02/17 08:45	03/04/17 09:20
10380873002	MW12S-GW-030217	Water	03/02/17 10:00	03/04/17 09:20
10380873003	MW11S-GW-030217	Water	03/02/17 10:50	03/04/17 09:20
10380873004	FD-030217	Water	03/02/17 11:00	03/04/17 09:20
10380873005	MW16D-GW-030217	Water	03/02/17 13:45	03/04/17 09:20
10380873006	MW18D-GW-030217	Water	03/02/17 16:20	03/04/17 09:20
10380873007	Trip Blank	Water	03/02/17 08:00	03/04/17 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380873001	MW6S-GW-030217	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10380873002	MW12S-GW-030217	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10380873003	MW11S-GW-030217	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10380873004	FD-030217	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10380873005	MW16D-GW-030217	RSK 175	MJL	3	PASI-M

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380873006	MW18D-GW-030217	6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	DJB	83	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
10380873007	Trip Blank	SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
		EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380873001	MW6S-GW-030217					
RSK 175	Methane	1.8J	ug/L	10.0	03/07/17 13:02	
6010C Met	Aluminum, Dissolved	413	ug/L	200	03/09/17 14:15	
6010C Met	Barium, Dissolved	35.6	ug/L	10.0	03/09/17 14:15	
6010C Met	Calcium, Dissolved	35900	ug/L	500	03/09/17 14:15	
6010C Met	Cobalt, Dissolved	0.92J	ug/L	10.0	03/09/17 14:15	
6010C Met	Iron, Dissolved	403	ug/L	50.0	03/09/17 14:15	
6010C Met	Magnesium, Dissolved	10100	ug/L	500	03/09/17 14:15	
6010C Met	Manganese, Dissolved	60.7	ug/L	5.0	03/09/17 14:15	
6010C Met	Potassium, Dissolved	725J	ug/L	2500	03/09/17 14:15	
6010C Met	Sodium, Dissolved	12100	ug/L	1000	03/09/17 14:15	
6010C Met	Vanadium, Dissolved	6.3J	ug/L	15.0	03/09/17 14:15	
6010C Met	Zinc, Dissolved	9.9J	ug/L	20.0	03/09/17 14:15	
SM 2320B	Alkalinity, Total as CaCO3	146	mg/L	5.0	03/14/17 11:19	
SM 2540C	Total Dissolved Solids	183	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	1.8	mg/L	1.2	03/04/17 15:09	
EPA 300.0	Nitrate as N	0.049J	mg/L	0.10	03/04/17 15:09	H3
EPA 300.0	Sulfate	2.2	mg/L	1.2	03/04/17 15:09	
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	03/09/17 21:30	
10380873002	MW12S-GW-030217					
RSK 175	Methane	2.0J	ug/L	10.0	03/07/17 13:09	
6010C Met	Barium, Dissolved	188	ug/L	10.0	03/09/17 14:44	
6010C Met	Calcium, Dissolved	80100	ug/L	500	03/09/17 14:44	
6010C Met	Cobalt, Dissolved	5.1J	ug/L	10.0	03/09/17 14:44	
6010C Met	Iron, Dissolved	625	ug/L	50.0	03/09/17 14:44	
6010C Met	Magnesium, Dissolved	24000	ug/L	500	03/09/17 14:44	
6010C Met	Manganese, Dissolved	1080	ug/L	5.0	03/09/17 14:44	
6010C Met	Nickel, Dissolved	4.5J	ug/L	20.0	03/09/17 14:44	
6010C Met	Potassium, Dissolved	893J	ug/L	2500	03/09/17 14:44	
6010C Met	Sodium, Dissolved	33900	ug/L	1000	03/09/17 14:44	
6010C Met	Vanadium, Dissolved	1.3J	ug/L	15.0	03/09/17 14:44	
6010C Met	Zinc, Dissolved	9.3J	ug/L	20.0	03/09/17 14:44	
EPA 8260B	Carbon disulfide	0.20J	ug/L	1.0	03/04/17 20:00	
SM 2320B	Alkalinity, Total as CaCO3	264	mg/L	5.0	03/14/17 11:23	
SM 2540C	Total Dissolved Solids	437	mg/L	10.0	03/08/17 14:50	
SM 4500-S-2 D	Sulfide, Total	0.014J	mg/L	0.020	03/09/17 12:30	
EPA 300.0	Chloride	40.9	mg/L	1.2	03/04/17 15:24	
EPA 300.0	Nitrate as N	1.9	mg/L	0.10	03/04/17 15:24	H1
EPA 300.0	Sulfate	34.0	mg/L	1.2	03/04/17 15:24	
SM 5310C	Total Organic Carbon	3.2	mg/L	1.0	03/09/17 21:44	
10380873003	MW11S-GW-030217					
RSK 175	Methane	1.8J	ug/L	10.0	03/07/17 13:16	
6010C Met	Aluminum, Dissolved	24.9J	ug/L	200	03/09/17 14:48	
6010C Met	Arsenic, Dissolved	3.8J	ug/L	20.0	03/09/17 14:48	
6010C Met	Barium, Dissolved	42.4	ug/L	10.0	03/09/17 14:48	
6010C Met	Calcium, Dissolved	45200	ug/L	500	03/09/17 14:48	
6010C Met	Cobalt, Dissolved	2.8J	ug/L	10.0	03/09/17 14:48	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380873003	MW11S-GW-030217					
6010C Met	Magnesium, Dissolved	13400	ug/L	500	03/09/17 14:48	
6010C Met	Manganese, Dissolved	403	ug/L	5.0	03/09/17 14:48	
6010C Met	Potassium, Dissolved	858J	ug/L	2500	03/09/17 14:48	
6010C Met	Sodium, Dissolved	19200	ug/L	1000	03/09/17 14:48	
6010C Met	Vanadium, Dissolved	6.9J	ug/L	15.0	03/09/17 14:48	
6010C Met	Zinc, Dissolved	3.7J	ug/L	20.0	03/09/17 14:48	
SM 2320B	Alkalinity, Total as CaCO3	193	mg/L	5.0	03/14/17 11:27	
SM 2540C	Total Dissolved Solids	222	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	1.0J	mg/L	1.2	03/04/17 16:09	
EPA 300.0	Sulfate	2.8	mg/L	1.2	03/04/17 16:09	
SM 5310C	Total Organic Carbon	0.60J	mg/L	1.0	03/09/17 22:24	
10380873004	FD-030217					
RSK 175	Methane	1.5J	ug/L	10.0	03/07/17 13:23	
6010C Met	Aluminum, Dissolved	22.9J	ug/L	200	03/09/17 14:52	
6010C Met	Arsenic, Dissolved	2.9J	ug/L	20.0	03/09/17 14:52	
6010C Met	Barium, Dissolved	63.4	ug/L	10.0	03/09/17 14:52	
6010C Met	Calcium, Dissolved	67400	ug/L	500	03/09/17 14:52	
6010C Met	Cobalt, Dissolved	0.57J	ug/L	10.0	03/09/17 14:52	
6010C Met	Magnesium, Dissolved	20400	ug/L	500	03/09/17 14:52	
6010C Met	Manganese, Dissolved	7.6	ug/L	5.0	03/09/17 14:52	
6010C Met	Potassium, Dissolved	1550J	ug/L	2500	03/09/17 14:52	
6010C Met	Sodium, Dissolved	18800	ug/L	1000	03/09/17 14:52	
6010C Met	Vanadium, Dissolved	9.2J	ug/L	15.0	03/09/17 14:52	
6010C Met	Zinc, Dissolved	1.7J	ug/L	20.0	03/09/17 14:52	
SM 2320B	Alkalinity, Total as CaCO3	216	mg/L	5.0	03/14/17 11:31	
SM 2540C	Total Dissolved Solids	350	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	8.9	mg/L	1.2	03/04/17 16:24	
EPA 300.0	Nitrate as N	7.1	mg/L	0.10	03/04/17 16:24	H1
EPA 300.0	Sulfate	32.6	mg/L	1.2	03/04/17 16:24	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	03/09/17 22:37	
10380873005	MW16D-GW-030217					
RSK 175	Methane	1.0J	ug/L	10.0	03/07/17 13:30	
6010C Met	Barium, Dissolved	63.1	ug/L	10.0	03/09/17 14:56	
6010C Met	Calcium, Dissolved	67200	ug/L	500	03/09/17 14:56	
6010C Met	Cobalt, Dissolved	0.66J	ug/L	10.0	03/09/17 14:56	
6010C Met	Magnesium, Dissolved	20300	ug/L	500	03/09/17 14:56	
6010C Met	Manganese, Dissolved	7.1	ug/L	5.0	03/09/17 14:56	
6010C Met	Potassium, Dissolved	1510J	ug/L	2500	03/09/17 14:56	
6010C Met	Sodium, Dissolved	18600	ug/L	1000	03/09/17 14:56	
6010C Met	Vanadium, Dissolved	9.1J	ug/L	15.0	03/09/17 14:56	
SM 2320B	Alkalinity, Total as CaCO3	207	mg/L	5.0	03/14/17 11:36	
SM 2540C	Total Dissolved Solids	354	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	8.7	mg/L	1.2	03/04/17 13:27	
EPA 300.0	Nitrate as N	7.0	mg/L	0.10	03/04/17 13:27	
EPA 300.0	Sulfate	32.1	mg/L	1.2	03/04/17 13:27	
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	03/09/17 22:50	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380873006	MW18D-GW-030217					
RSK 175	Methane	0.97J	ug/L	10.0	03/07/17 13:52	
6010C Met	Aluminum, Dissolved	62.2J	ug/L	200	03/09/17 15:00	
6010C Met	Arsenic, Dissolved	2.8J	ug/L	20.0	03/09/17 15:00	
6010C Met	Barium, Dissolved	54.3	ug/L	10.0	03/09/17 15:00	
6010C Met	Calcium, Dissolved	25400	ug/L	500	03/09/17 15:00	
6010C Met	Cobalt, Dissolved	0.78J	ug/L	10.0	03/09/17 15:00	
6010C Met	Iron, Dissolved	126	ug/L	50.0	03/09/17 15:00	
6010C Met	Magnesium, Dissolved	16000	ug/L	500	03/09/17 15:00	
6010C Met	Manganese, Dissolved	66.7	ug/L	5.0	03/09/17 15:00	
6010C Met	Potassium, Dissolved	3510	ug/L	2500	03/09/17 15:00	
6010C Met	Sodium, Dissolved	23100	ug/L	1000	03/09/17 15:00	
6010C Met	Vanadium, Dissolved	0.46J	ug/L	15.0	03/09/17 15:00	
6010C Met	Zinc, Dissolved	4.9J	ug/L	20.0	03/09/17 15:00	
SM 2320B	Alkalinity, Total as CaCO ₃	155	mg/L	5.0	03/14/17 11:40	
SM 2540C	Total Dissolved Solids	198	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	4.3	mg/L	1.2	03/04/17 14:06	
EPA 300.0	Sulfate	11.6	mg/L	1.2	03/04/17 14:06	M1
SM 5310C	Total Organic Carbon	1.1	mg/L	1.0	03/09/17 23:03	
10380873007	Trip Blank					
EPA 8260B	Methylene Chloride	0.59J	ug/L	4.0	03/04/17 19:16	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

7 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462570

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- FD-030217 (Lab ID: 10380873004)
- MW11S-GW-030217 (Lab ID: 10380873003)
- MW12S-GW-030217 (Lab ID: 10380873002)

H3: Sample was received or analysis requested beyond the recognized method holding time.

- MW6S-GW-030217 (Lab ID: 10380873001)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462563

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380873006,10380882005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2529371)
 - Sulfate
- MS (Lab ID: 2529425)
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2529372)
 - Sulfate
- MSD (Lab ID: 2529426)
 - Chloride
 - Nitrate as N
 - Sulfate

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 16, 2017

General Information:

6 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW6S-GW-030217 **Lab ID: 10380873001** Collected: 03/02/17 08:45 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 13:02	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 13:02	74-85-1	
Methane	1.8J	ug/L	10.0	0.49	1		03/07/17 13:02	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	413	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 14:15	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:15	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:15	7440-38-2	
Barium, Dissolved	35.6	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 14:15	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 14:15	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 14:15	7440-43-9	
Calcium, Dissolved	35900	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 14:15	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 14:15	7440-47-3	
Cobalt, Dissolved	0.92J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 14:15	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 14:15	7440-50-8	
Iron, Dissolved	403	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 14:15	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 14:15	7439-92-1	
Magnesium, Dissolved	10100	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 14:15	7439-95-4	
Manganese, Dissolved	60.7	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 14:15	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 14:15	7440-02-0	
Potassium, Dissolved	725J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 14:15	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 14:15	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 14:15	7440-22-4	
Sodium, Dissolved	12100	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 14:15	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 14:15	7440-28-0	
Vanadium, Dissolved	6.3J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 14:15	7440-62-2	
Zinc, Dissolved	9.9J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 14:15	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:09	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 19:38	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 19:38	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 19:38	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 19:38	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 19:38	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 19:38	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 19:38	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 19:38	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 19:38	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 19:38	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 19:38	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 19:38	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 19:38	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 19:38	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: **MW6S-GW-030217** Lab ID: **10380873001** Collected: 03/02/17 08:45 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 19:38	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 19:38	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 19:38	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 19:38	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 19:38	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 19:38	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 19:38	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 19:38	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 19:38	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 19:38	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 19:38	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 19:38	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 19:38	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 19:38	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 19:38	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 19:38	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 19:38	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 19:38	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 19:38	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 19:38	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 19:38	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 19:38	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 19:38	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 19:38	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 19:38	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 19:38	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 19:38	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 19:38	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 19:38	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 19:38	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 19:38	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 19:38	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 19:38	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 19:38	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 19:38	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 19:38	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 19:38	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 19:38	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 19:38	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 19:38	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 19:38	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 19:38	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 19:38	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 19:38	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 19:38	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 19:38	109-99-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: **MW6S-GW-030217** Lab ID: **10380873001** Collected: 03/02/17 08:45 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level Analytical Method: EPA 8260B									
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 19:38	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 19:38	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 19:38	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 19:38	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 19:38	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 19:38	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 19:38	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 19:38	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 19:38	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 19:38	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 19:38	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 19:38	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 19:38	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 19:38	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 19:38	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 19:38	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 19:38	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 19:38	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 19:38	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 19:38	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		03/04/17 19:38	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/04/17 19:38	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 19:38	460-00-4	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	146	mg/L	5.0	1.4	1		03/14/17 11:19		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	183	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:29	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.8	mg/L	1.2	0.10	1		03/04/17 15:09	16887-00-6	
Nitrate as N	0.049J	mg/L	0.10	0.013	1		03/04/17 15:09	14797-55-8	H3
Sulfate	2.2	mg/L	1.2	0.16	1		03/04/17 15:09	14808-79-8	
5310C TOC Analytical Method: SM 5310C									
Total Organic Carbon	1.1	mg/L	1.0	0.20	1		03/09/17 21:30	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW12S-GW-030217 **Lab ID:** 10380873002 Collected: 03/02/17 10:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 13:09	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 13:09	74-85-1	
Methane	2.0J	ug/L	10.0	0.49	1		03/07/17 13:09	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 14:44	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:44	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:44	7440-38-2	
Barium, Dissolved	188	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 14:44	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 14:44	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 14:44	7440-43-9	
Calcium, Dissolved	80100	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 14:44	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 14:44	7440-47-3	
Cobalt, Dissolved	5.1J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 14:44	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 14:44	7440-50-8	
Iron, Dissolved	625	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 14:44	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 14:44	7439-92-1	
Magnesium, Dissolved	24000	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 14:44	7439-95-4	
Manganese, Dissolved	1080	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 14:44	7439-96-5	
Nickel, Dissolved	4.5J	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 14:44	7440-02-0	
Potassium, Dissolved	893J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 14:44	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 14:44	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 14:44	7440-22-4	
Sodium, Dissolved	33900	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 14:44	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 14:44	7440-28-0	
Vanadium, Dissolved	1.3J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 14:44	7440-62-2	
Zinc, Dissolved	9.3J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 14:44	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:11	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 20:00	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 20:00	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 20:00	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 20:00	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 20:00	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 20:00	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 20:00	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 20:00	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 20:00	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 20:00	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 20:00	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 20:00	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 20:00	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 20:00	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW12S-GW-030217 Lab ID: 10380873002 Collected: 03/02/17 10:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 20:00	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 20:00	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 20:00	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 20:00	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 20:00	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 20:00	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 20:00	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 20:00	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 20:00	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 20:00	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 20:00	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 20:00	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 20:00	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 20:00	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 20:00	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 20:00	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 20:00	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 20:00	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 20:00	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 20:00	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 20:00	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 20:00	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 20:00	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 20:00	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 20:00	74-83-9	
Carbon disulfide	0.20J	ug/L	1.0	0.20	1		03/04/17 20:00	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 20:00	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 20:00	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 20:00	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 20:00	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 20:00	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 20:00	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 20:00	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 20:00	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 20:00	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 20:00	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 20:00	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 20:00	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 20:00	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 20:00	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 20:00	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 20:00	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 20:00	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 20:00	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 20:00	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 20:00	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW12S-GW-030217 Lab ID: 10380873002 Collected: 03/02/17 10:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 20:00	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 20:00	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 20:00	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 20:00	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 20:00	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 20:00	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 20:00	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 20:00	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 20:00	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 20:00	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 20:00	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 20:00	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 20:00	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 20:00	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 20:00	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 20:00	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 20:00	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 20:00	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 20:00	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 20:00	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	75-125		1		03/04/17 20:00	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		03/04/17 20:00	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/04/17 20:00	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	264	mg/L	5.0	1.4	1		03/14/17 11:23		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	437	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	0.014J	mg/L	0.020	0.0050	1		03/09/17 12:30	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	40.9	mg/L	1.2	0.10	1		03/04/17 15:24	16887-00-6	
Nitrate as N	1.9	mg/L	0.10	0.013	1		03/04/17 15:24	14797-55-8	H1
Sulfate	34.0	mg/L	1.2	0.16	1		03/04/17 15:24	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	3.2	mg/L	1.0	0.20	1		03/09/17 21:44	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: **MW11S-GW-030217** Lab ID: **10380873003** Collected: 03/02/17 10:50 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 13:16	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 13:16	74-85-1	
Methane	1.8J	ug/L	10.0	0.49	1		03/07/17 13:16	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	24.9J	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 14:48	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:48	7440-36-0	
Arsenic, Dissolved	3.8J	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:48	7440-38-2	
Barium, Dissolved	42.4	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 14:48	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 14:48	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 14:48	7440-43-9	
Calcium, Dissolved	45200	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 14:48	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 14:48	7440-47-3	
Cobalt, Dissolved	2.8J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 14:48	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 14:48	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 14:48	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 14:48	7439-92-1	
Magnesium, Dissolved	13400	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 14:48	7439-95-4	
Manganese, Dissolved	403	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 14:48	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 14:48	7440-02-0	
Potassium, Dissolved	858J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 14:48	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 14:48	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 14:48	7440-22-4	
Sodium, Dissolved	19200	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 14:48	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 14:48	7440-28-0	
Vanadium, Dissolved	6.9J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 14:48	7440-62-2	
Zinc, Dissolved	3.7J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 14:48	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:23	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 20:45	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 20:45	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 20:45	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 20:45	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 20:45	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 20:45	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 20:45	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 20:45	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 20:45	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 20:45	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 20:45	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 20:45	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 20:45	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 20:45	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW11S-GW-030217 Lab ID: 10380873003 Collected: 03/02/17 10:50 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 20:45	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 20:45	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 20:45	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 20:45	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 20:45	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 20:45	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 20:45	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 20:45	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 20:45	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 20:45	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 20:45	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 20:45	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 20:45	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 20:45	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 20:45	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 20:45	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 20:45	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 20:45	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 20:45	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 20:45	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 20:45	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 20:45	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 20:45	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 20:45	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 20:45	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 20:45	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 20:45	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 20:45	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 20:45	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 20:45	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 20:45	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 20:45	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 20:45	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 20:45	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 20:45	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 20:45	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 20:45	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 20:45	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 20:45	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 20:45	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 20:45	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 20:45	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 20:45	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 20:45	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 20:45	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 20:45	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW11S-GW-030217 Lab ID: 10380873003 Collected: 03/02/17 10:50 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 20:45	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 20:45	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 20:45	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 20:45	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 20:45	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 20:45	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 20:45	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 20:45	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 20:45	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 20:45	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 20:45	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 20:45	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 20:45	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 20:45	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 20:45	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 20:45	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 20:45	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 20:45	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 20:45	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 20:45	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/04/17 20:45	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/04/17 20:45	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/04/17 20:45	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	193	mg/L	5.0	1.4	1		03/14/17 11:27		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	222	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:30	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	1.0J	mg/L	1.2	0.10	1		03/04/17 16:09	16887-00-6	
Nitrate as N	<0.013	mg/L	0.10	0.013	1		03/04/17 16:09	14797-55-8	H1
Sulfate	2.8	mg/L	1.2	0.16	1		03/04/17 16:09	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	0.60J	mg/L	1.0	0.20	1		03/09/17 22:24	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: FD-030217 **Lab ID: 10380873004** Collected: 03/02/17 11:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 13:23	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 13:23	74-85-1	
Methane	1.5J	ug/L	10.0	0.49	1		03/07/17 13:23	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	22.9J	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 14:52	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:52	7440-36-0	
Arsenic, Dissolved	2.9J	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:52	7440-38-2	
Barium, Dissolved	63.4	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 14:52	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 14:52	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 14:52	7440-43-9	
Calcium, Dissolved	67400	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 14:52	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 14:52	7440-47-3	
Cobalt, Dissolved	0.57J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 14:52	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 14:52	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 14:52	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 14:52	7439-92-1	
Magnesium, Dissolved	20400	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 14:52	7439-95-4	
Manganese, Dissolved	7.6	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 14:52	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 14:52	7440-02-0	
Potassium, Dissolved	1550J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 14:52	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 14:52	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 14:52	7440-22-4	
Sodium, Dissolved	18800	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 14:52	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 14:52	7440-28-0	
Vanadium, Dissolved	9.2J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 14:52	7440-62-2	
Zinc, Dissolved	1.7J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 14:52	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:25	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/05/17 00:06	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/05/17 00:06	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:06	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/05/17 00:06	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/05/17 00:06	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:06	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/05/17 00:06	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/05/17 00:06	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/05/17 00:06	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/05/17 00:06	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/05/17 00:06	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/05/17 00:06	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/05/17 00:06	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/05/17 00:06	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: **FD-030217** Lab ID: **10380873004** Collected: 03/02/17 11:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/05/17 00:06	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/05/17 00:06	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/05/17 00:06	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/05/17 00:06	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/05/17 00:06	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/05/17 00:06	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/05/17 00:06	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/05/17 00:06	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/05/17 00:06	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/05/17 00:06	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/05/17 00:06	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/05/17 00:06	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/05/17 00:06	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/05/17 00:06	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/05/17 00:06	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/05/17 00:06	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/05/17 00:06	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/05/17 00:06	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/05/17 00:06	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/05/17 00:06	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/05/17 00:06	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/05/17 00:06	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/05/17 00:06	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/05/17 00:06	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/05/17 00:06	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/05/17 00:06	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/05/17 00:06	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/05/17 00:06	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/05/17 00:06	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/05/17 00:06	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/05/17 00:06	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/05/17 00:06	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/05/17 00:06	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/05/17 00:06	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/05/17 00:06	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/05/17 00:06	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/05/17 00:06	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/05/17 00:06	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/05/17 00:06	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/05/17 00:06	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/05/17 00:06	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/05/17 00:06	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/05/17 00:06	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/05/17 00:06	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/05/17 00:06	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/05/17 00:06	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: FD-030217 **Lab ID: 10380873004** Collected: 03/02/17 11:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		03/05/17 00:06	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/05/17 00:06	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:06	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/05/17 00:06	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/05/17 00:06	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/05/17 00:06	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/05/17 00:06	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/05/17 00:06	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/05/17 00:06	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/05/17 00:06	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/05/17 00:06	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/05/17 00:06	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/05/17 00:06	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/05/17 00:06	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/05/17 00:06	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/05/17 00:06	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/05/17 00:06	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/05/17 00:06	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/05/17 00:06	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/05/17 00:06	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		03/05/17 00:06	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/05/17 00:06	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		03/05/17 00:06	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	216	mg/L	5.0	1.4	1		03/14/17 11:31		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	350	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:31	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	8.9	mg/L	1.2	0.10	1		03/04/17 16:24	16887-00-6	
Nitrate as N	7.1	mg/L	0.10	0.013	1		03/04/17 16:24	14797-55-8	H1
Sulfate	32.6	mg/L	1.2	0.16	1		03/04/17 16:24	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.2	mg/L	1.0	0.20	1		03/09/17 22:37	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW16D-GW-030217 **Lab ID:** 10380873005 Collected: 03/02/17 13:45 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 13:30	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 13:30	74-85-1	
Methane	1.0J	ug/L	10.0	0.49	1		03/07/17 13:30	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 14:56	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:56	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 14:56	7440-38-2	
Barium, Dissolved	63.1	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 14:56	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 14:56	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 14:56	7440-43-9	
Calcium, Dissolved	67200	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 14:56	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 14:56	7440-47-3	
Cobalt, Dissolved	0.66J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 14:56	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 14:56	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 14:56	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 14:56	7439-92-1	
Magnesium, Dissolved	20300	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 14:56	7439-95-4	
Manganese, Dissolved	7.1	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 14:56	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 14:56	7440-02-0	
Potassium, Dissolved	1510J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 14:56	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 14:56	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 14:56	7440-22-4	
Sodium, Dissolved	18600	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 14:56	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 14:56	7440-28-0	
Vanadium, Dissolved	9.1J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 14:56	7440-62-2	
Zinc, Dissolved	<1.4	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 14:56	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:27	7439-97-6	
8260B MSV Low Level Analytical Method: EPA 8260B									
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/05/17 00:28	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/05/17 00:28	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:28	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/05/17 00:28	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/05/17 00:28	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:28	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/05/17 00:28	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/05/17 00:28	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/05/17 00:28	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/05/17 00:28	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/05/17 00:28	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/05/17 00:28	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/05/17 00:28	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/05/17 00:28	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW16D-GW-030217 Lab ID: 10380873005 Collected: 03/02/17 13:45 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/05/17 00:28	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/05/17 00:28	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/05/17 00:28	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/05/17 00:28	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/05/17 00:28	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/05/17 00:28	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/05/17 00:28	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/05/17 00:28	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/05/17 00:28	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/05/17 00:28	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/05/17 00:28	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/05/17 00:28	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/05/17 00:28	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/05/17 00:28	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/05/17 00:28	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/05/17 00:28	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/05/17 00:28	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/05/17 00:28	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/05/17 00:28	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/05/17 00:28	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/05/17 00:28	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/05/17 00:28	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/05/17 00:28	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/05/17 00:28	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/05/17 00:28	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/05/17 00:28	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/05/17 00:28	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/05/17 00:28	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/05/17 00:28	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/05/17 00:28	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/05/17 00:28	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/05/17 00:28	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/05/17 00:28	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/05/17 00:28	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/05/17 00:28	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/05/17 00:28	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/05/17 00:28	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/05/17 00:28	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/05/17 00:28	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/05/17 00:28	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/05/17 00:28	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/05/17 00:28	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/05/17 00:28	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/05/17 00:28	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/05/17 00:28	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/05/17 00:28	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW16D-GW-030217 **Lab ID: 10380873005** Collected: 03/02/17 13:45 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		03/05/17 00:28	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/05/17 00:28	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:28	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/05/17 00:28	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/05/17 00:28	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/05/17 00:28	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/05/17 00:28	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/05/17 00:28	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/05/17 00:28	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/05/17 00:28	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/05/17 00:28	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/05/17 00:28	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/05/17 00:28	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/05/17 00:28	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/05/17 00:28	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/05/17 00:28	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/05/17 00:28	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/05/17 00:28	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/05/17 00:28	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/05/17 00:28	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/05/17 00:28	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/05/17 00:28	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		03/05/17 00:28	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	207	mg/L	5.0	1.4	1		03/14/17 11:36		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	354	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:32	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	8.7	mg/L	1.2	0.10	1		03/04/17 13:27	16887-00-6	
Nitrate as N	7.0	mg/L	0.10	0.013	1		03/04/17 13:27	14797-55-8	
Sulfate	32.1	mg/L	1.2	0.16	1		03/04/17 13:27	14808-79-8	
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.2	mg/L	1.0	0.20	1		03/09/17 22:50	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: **MW18D-GW-030217** Lab ID: **10380873006** Collected: 03/02/17 16:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 13:52	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 13:52	74-85-1	
Methane	0.97J	ug/L	10.0	0.49	1		03/07/17 13:52	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	62.2J	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 15:00	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:00	7440-36-0	
Arsenic, Dissolved	2.8J	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:00	7440-38-2	
Barium, Dissolved	54.3	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 15:00	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 15:00	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 15:00	7440-43-9	
Calcium, Dissolved	25400	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 15:00	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 15:00	7440-47-3	
Cobalt, Dissolved	0.78J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 15:00	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 15:00	7440-50-8	
Iron, Dissolved	126	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 15:00	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 15:00	7439-92-1	
Magnesium, Dissolved	16000	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 15:00	7439-95-4	
Manganese, Dissolved	66.7	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 15:00	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 15:00	7440-02-0	
Potassium, Dissolved	3510	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 15:00	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 15:00	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 15:00	7440-22-4	
Sodium, Dissolved	23100	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 15:00	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 15:00	7440-28-0	
Vanadium, Dissolved	0.46J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 15:00	7440-62-2	
Zinc, Dissolved	4.9J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 15:00	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:29	7439-97-6	
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 21:07	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 21:07	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:07	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 21:07	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 21:07	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:07	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 21:07	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 21:07	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 21:07	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 21:07	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 21:07	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 21:07	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 21:07	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 21:07	106-93-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW18D-GW-030217 Lab ID: 10380873006 Collected: 03/02/17 16:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 21:07	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 21:07	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 21:07	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 21:07	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 21:07	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 21:07	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 21:07	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 21:07	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 21:07	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 21:07	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 21:07	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 21:07	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 21:07	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 21:07	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 21:07	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 21:07	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 21:07	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 21:07	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 21:07	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 21:07	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 21:07	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 21:07	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 21:07	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 21:07	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 21:07	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 21:07	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 21:07	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 21:07	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 21:07	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 21:07	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 21:07	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 21:07	124-48-1	
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 21:07	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 21:07	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 21:07	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 21:07	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 21:07	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 21:07	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 21:07	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 21:07	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 21:07	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 21:07	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 21:07	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 21:07	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 21:07	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 21:07	109-99-9	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: MW18D-GW-030217 Lab ID: 10380873006 Collected: 03/02/17 16:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 21:07	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 21:07	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:07	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 21:07	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 21:07	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 21:07	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 21:07	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 21:07	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 21:07	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 21:07	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 21:07	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 21:07	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 21:07	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 21:07	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 21:07	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 21:07	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 21:07	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 21:07	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 21:07	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 21:07	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/04/17 21:07	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/04/17 21:07	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/04/17 21:07	460-00-4	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	155	mg/L	5.0	1.4	1		03/14/17 11:40		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	198	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:33	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	4.3	mg/L	1.2	0.10	1		03/04/17 14:06	16887-00-6	
Nitrate as N	<0.013	mg/L	0.10	0.013	1		03/04/17 14:06	14797-55-8	
Sulfate	11.6	mg/L	1.2	0.16	1		03/04/17 14:06	14808-79-8	M1
5310C TOC		Analytical Method: SM 5310C							
Total Organic Carbon	1.1	mg/L	1.0	0.20	1		03/09/17 23:03	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: Trip Blank **Lab ID: 10380873007** Collected: 03/02/17 08:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 19:16	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 19:16	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 19:16	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 19:16	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 19:16	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 19:16	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 19:16	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 19:16	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 19:16	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 19:16	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 19:16	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 19:16	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 19:16	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 19:16	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 19:16	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 19:16	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 19:16	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 19:16	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 19:16	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 19:16	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 19:16	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 19:16	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 19:16	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 19:16	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 19:16	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 19:16	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 19:16	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 19:16	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 19:16	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 19:16	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 19:16	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 19:16	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 19:16	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 19:16	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 19:16	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 19:16	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 19:16	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 19:16	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 19:16	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 19:16	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 19:16	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 19:16	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 19:16	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 19:16	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 19:16	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 19:16	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Sample: Trip Blank **Lab ID: 10380873007** Collected: 03/02/17 08:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 19:16	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 19:16	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 19:16	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 19:16	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 19:16	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 19:16	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 19:16	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 19:16	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 19:16	1634-04-4	
Methylene Chloride	0.59J	ug/L	4.0	0.097	1		03/04/17 19:16	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 19:16	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 19:16	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 19:16	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 19:16	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 19:16	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 19:16	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 19:16	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 19:16	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 19:16	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 19:16	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 19:16	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 19:16	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 19:16	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 19:16	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 19:16	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 19:16	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 19:16	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 19:16	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 19:16	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 19:16	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 19:16	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 19:16	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 19:16	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 19:16	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/04/17 19:16	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/04/17 19:16	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 19:16	460-00-4	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 462822 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005

METHOD BLANK: 2530554 Matrix: Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/07/17 10:53	
Ethene	ug/L	<0.77	10.0	0.77	03/07/17 10:53	
Methane	ug/L	1.7J	10.0	0.49	03/07/17 10:53	

LABORATORY CONTROL SAMPLE & LCSD: 2530555

Parameter	Units	2530556								
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	112	107	98	94	85-115	5	20	
Ethene	ug/L	106	104	99.5	98	94	85-115	5	20	
Methane	ug/L	60.7	59.2	56.5	98	93	85-115	5	20	

SAMPLE DUPLICATE: 2530557

Parameter	Units	60238929001		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	979	856	13	20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	296	261	13	20	

SAMPLE DUPLICATE: 2530558

Parameter	Units	60238929010		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	25.8	21.4	19	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 462823 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10380873006

METHOD BLANK: 2530559 Matrix: Water
Associated Lab Samples: 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/07/17 13:45	
Ethene	ug/L	<0.77	10.0	0.77	03/07/17 13:45	
Methane	ug/L	1.7J	10.0	0.49	03/07/17 13:45	

LABORATORY CONTROL SAMPLE & LCSD: 2530560

Parameter	Units	2530561								
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethane	ug/L	114	107	109	94	96	85-115	2	20	
Ethene	ug/L	106	99.5	102	94	96	85-115	3	20	
Methane	ug/L	60.7	56.5	58.7	93	97	85-115	4	20	

SAMPLE DUPLICATE: 2530562

Parameter	Units	10380873006		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	0.97J	4.0J		20	

SAMPLE DUPLICATE: 2530563

Parameter	Units	60238928011		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	ND	1.6J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

QC Batch: 462818

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 2530538

Matrix: Water

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/12/17 20:58	

LABORATORY CONTROL SAMPLE: 2530539

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.2	84	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530540 2530541

Parameter	Units	2530540		2530541		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10380873002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Mercury, Dissolved	ug/L	<0.031	5	5	4.3	4.1	85	81	80-120	5	20

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 462813 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 2530518 Matrix: Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/09/17 13:56	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/09/17 13:56	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/09/17 13:56	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/09/17 13:56	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/09/17 13:56	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/09/17 13:56	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/09/17 13:56	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/09/17 13:56	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/09/17 13:56	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/09/17 13:56	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/09/17 13:56	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/09/17 13:56	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/09/17 13:56	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/09/17 13:56	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/09/17 13:56	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/09/17 13:56	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/09/17 13:56	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/09/17 13:56	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	03/09/17 13:56	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/09/17 13:56	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/09/17 13:56	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/09/17 13:56	

LABORATORY CONTROL SAMPLE: 2530519

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20200	101	80-120	
Antimony, Dissolved	ug/L	1000	952	95	80-120	
Arsenic, Dissolved	ug/L	1000	958	96	80-120	
Barium, Dissolved	ug/L	1000	982	98	80-120	
Beryllium, Dissolved	ug/L	1000	985	98	80-120	
Cadmium, Dissolved	ug/L	1000	986	99	80-120	
Calcium, Dissolved	ug/L	20000	19300	97	80-120	
Chromium, Dissolved	ug/L	1000	953	95	80-120	
Cobalt, Dissolved	ug/L	1000	971	97	80-120	
Copper, Dissolved	ug/L	1000	960	96	80-120	
Iron, Dissolved	ug/L	20000	19300	97	80-120	
Lead, Dissolved	ug/L	1000	979	98	80-120	
Magnesium, Dissolved	ug/L	20000	19900	99	80-120	
Manganese, Dissolved	ug/L	1000	975	97	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

LABORATORY CONTROL SAMPLE: 2530519

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	966	97	80-120	
Potassium, Dissolved	ug/L	20000	18700	93	80-120	
Selenium, Dissolved	ug/L	1000	1020	102	80-120	
Silver, Dissolved	ug/L	500	484	97	80-120	
Sodium, Dissolved	ug/L	20000	18800	94	80-120	
Thallium, Dissolved	ug/L	1000	907	91	80-120	
Vanadium, Dissolved	ug/L	1000	966	97	80-120	
Zinc, Dissolved	ug/L	1000	983	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530520 2530521

Parameter	Units	10380873001		2530520		2530521		% Rec	% Rec	% Rec Limits	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					
Aluminum, Dissolved	ug/L	413	20000	20000	21100	20900	104	103	75-125	1	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	983	971	98	97	75-125	1	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	977	970	98	97	75-125	1	20	
Barium, Dissolved	ug/L	35.6	1000	1000	1030	1020	99	98	75-125	1	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	996	983	100	98	75-125	1	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	992	977	99	98	75-125	2	20	
Calcium, Dissolved	ug/L	35900	20000	20000	56400	55300	102	97	75-125	2	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	959	948	96	95	75-125	1	20	
Cobalt, Dissolved	ug/L	0.92J	1000	1000	967	952	97	95	75-125	2	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	980	966	98	97	75-125	1	20	
Iron, Dissolved	ug/L	403	20000	20000	20000	19700	98	97	75-125	1	20	
Lead, Dissolved	ug/L	<1.9	1000	1000	975	963	97	96	75-125	1	20	
Magnesium, Dissolved	ug/L	10100	20000	20000	30600	30100	103	100	75-125	2	20	
Manganese, Dissolved	ug/L	60.7	1000	1000	1040	1020	98	96	75-125	1	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	956	945	96	94	75-125	1	20	
Potassium, Dissolved	ug/L	725J	20000	20000	20300	20100	98	97	75-125	1	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1020	1010	102	101	75-125	1	20	
Silver, Dissolved	ug/L	<0.28	500	500	489	483	98	97	75-125	1	20	
Sodium, Dissolved	ug/L	12100	20000	20000	31400	30800	97	94	75-125	2	20	
Thallium, Dissolved	ug/L	<3.8	1000	1000	913	905	91	90	75-125	1	20	
Vanadium, Dissolved	ug/L	6.3J	1000	1000	982	968	98	96	75-125	1	20	
Zinc, Dissolved	ug/L	9.9J	1000	1000	976	967	97	96	75-125	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 462570 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006, 10380873007

METHOD BLANK: 2529515 Matrix: Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006, 10380873007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/04/17 18:53	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/04/17 18:53	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/04/17 18:53	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/04/17 18:53	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/04/17 18:53	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/04/17 18:53	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/04/17 18:53	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/04/17 18:53	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/04/17 18:53	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/04/17 18:53	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/04/17 18:53	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/04/17 18:53	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/04/17 18:53	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/04/17 18:53	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/04/17 18:53	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/04/17 18:53	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/04/17 18:53	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/04/17 18:53	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/04/17 18:53	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/04/17 18:53	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/04/17 18:53	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/04/17 18:53	
Acetone	ug/L	<0.64	20.0	0.64	03/04/17 18:53	
Acrolein	ug/L	<2.1	10.0	2.1	03/04/17 18:53	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/04/17 18:53	
Benzene	ug/L	<0.042	0.50	0.042	03/04/17 18:53	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/04/17 18:53	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/04/17 18:53	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/04/17 18:53	
Bromoform	ug/L	<0.11	4.0	0.11	03/04/17 18:53	
Bromomethane	ug/L	<0.20	4.0	0.20	03/04/17 18:53	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/04/17 18:53	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/04/17 18:53	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

METHOD BLANK: 2529515

Matrix: Water

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006, 10380873007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/04/17 18:53	
Chloroethane	ug/L	<0.12	1.0	0.12	03/04/17 18:53	
Chloroform	ug/L	<0.21	1.0	0.21	03/04/17 18:53	
Chloromethane	ug/L	<0.080	4.0	0.080	03/04/17 18:53	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/04/17 18:53	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/04/17 18:53	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/04/17 18:53	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/04/17 18:53	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/04/17 18:53	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/04/17 18:53	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/04/17 18:53	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/04/17 18:53	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/04/17 18:53	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/04/17 18:53	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/04/17 18:53	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/04/17 18:53	
Naphthalene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/04/17 18:53	MN
Styrene	ug/L	<0.056	4.0	0.056	03/04/17 18:53	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/04/17 18:53	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/04/17 18:53	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/04/17 18:53	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/04/17 18:53	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/04/17 18:53	
Toluene	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/04/17 18:53	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/04/17 18:53	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/04/17 18:53	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/04/17 18:53	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/04/17 18:53	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/04/17 18:53	
1,2-Dichloroethane-d4 (S)	%	100	75-125		03/04/17 18:53	
4-Bromofluorobenzene (S)	%	103	75-125		03/04/17 18:53	
Toluene-d8 (S)	%	104	75-125		03/04/17 18:53	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	18.0	99	90	75-125	10	30		
1,1,1-Trichloroethane	ug/L	20	20.0	18.5	100	92	74-125	8	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	19.6	105	98	67-131	7	30		
1,1,2-Trichloroethane	ug/L	20	21.1	19.5	105	97	75-125	8	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	17.8	98	89	75-125	9	30		
1,1-Dichloroethane	ug/L	20	22.1	20.9	111	105	74-125	6	30		
1,1-Dichloroethene	ug/L	20	19.2	18.2	96	91	74-125	6	30		
1,1-Dichloropropene	ug/L	20	18.6	17.9	93	90	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	17.9	17.3	89	86	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.9	19.1	104	95	73-125	9	30		
1,2,4-Trichlorobenzene	ug/L	20	15.9	15.3	79	77	66-126	4	30		
1,2,4-Trimethylbenzene	ug/L	20	17.8	16.4	89	82	74-129	8	30		
1,2-Dibromo-3-chloropropane	ug/L	50	47.0	41.6	94	83	54-129	12	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.1	19.8	106	99	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	18.6	17.4	93	87	75-125	7	30		
1,2-Dichloroethane	ug/L	20	19.1	18.1	95	91	75-125	5	30		
1,2-Dichloroethene (Total)	ug/L	40	40.5	38.7	101	97	75-125	5	30		
1,2-Dichloropropane	ug/L	20	20.7	19.0	103	95	75-125	8	30		
1,3,5-Trimethylbenzene	ug/L	20	18.3	17.0	92	85	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	18.7	17.3	94	87	75-125	8	30		
1,3-Dichloropropane	ug/L	20	20.3	19.2	102	96	69-125	5	30		
1,4-Dichlorobenzene	ug/L	20	18.5	17.2	92	86	75-125	7	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	417	409	104	102	70-130	2	30		
2,2,4-Trimethylpentane	ug/L	20	20.0	19.2	100	96	67-138	4	30		
2,2-Dichloropropane	ug/L	20	20.2	18.9	101	94	69-125	7	30		
2-Butanone (MEK)	ug/L	100	104	97.8	104	98	48-145	6	30		
2-Chlorotoluene	ug/L	20	20.3	18.6	102	93	74-125	9	30		
2-Hexanone	ug/L	100	115	104	115	104	63-135	10	30		
4-Chlorotoluene	ug/L	20	19.7	18.3	98	91	73-125	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	118	107	118	107	53-138	10	30		
Acetone	ug/L	100	108	103	108	103	70-142	4	30		
Acrolein	ug/L	200	234	217	117	109	44-150	7	30		
Acrylonitrile	ug/L	200	230	216	115	108	68-125	6	30		
Benzene	ug/L	20	20.6	19.1	103	96	65-125	8	30		
Bromobenzene	ug/L	20	19.1	17.6	96	88	75-125	8	30		
Bromochloromethane	ug/L	20	20.3	18.9	101	95	75-125	7	30		
Bromodichloromethane	ug/L	20	20.5	19.1	103	96	73-125	7	30		
Bromoform	ug/L	20	17.5	16.5	87	83	69-125	6	30		
Bromomethane	ug/L	20	16.7	16.7	84	83	40-136	0	30		
Carbon disulfide	ug/L	20	18.6	17.2	93	86	36-150	8	30		
Carbon tetrachloride	ug/L	20	19.2	17.9	96	90	70-125	7	30		
Chlorobenzene	ug/L	20	19.4	17.9	97	89	75-125	8	30		
Chloroethane	ug/L	20	23.2	21.1	116	105	67-141	10	30		
Chloroform	ug/L	20	19.2	18.1	96	90	75-125	6	30		
Chloromethane	ug/L	20	22.6	20.6	113	103	50-150	9	30		
cis-1,2-Dichloroethene	ug/L	20	19.7	19.0	98	95	75-125	4	30		
cis-1,3-Dichloropropene	ug/L	20	21.0	19.3	105	97	75-125	8	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	20.2	19.0	101	95	75-125	6	30	
Dibromomethane	ug/L	20	19.4	17.8	97	89	75-129	8	30	
Dichlorodifluoromethane	ug/L	20	17.4	15.9	87	80	59-135	9	30	
Dichlorofluoromethane	ug/L	20	20.3	19.0	102	95	74-130	7	30	
Diisopropyl ether	ug/L	20	22.4	21.9	112	110	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	21.7	21.2	108	106	70-130	2	30	
Ethylbenzene	ug/L	20	18.4	16.9	92	84	75-125	9	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	16.6	85	83	72-126	3	30	
Isopropylbenzene (Cumene)	ug/L	20	16.2	14.9	81	74	71-136	9	30	
m&p-Xylene	ug/L	40	37.3	34.3	93	86	75-125	8	30	
Methyl-tert-butyl ether	ug/L	20	20.0	19.5	100	98	73-127	3	30	
Methylene Chloride	ug/L	20	20.6	19.5	103	97	68-128	6	30	
n-Butylbenzene	ug/L	20	16.8	15.6	84	78	70-126	7	30	
n-Propylbenzene	ug/L	20	18.3	16.7	91	84	67-131	9	30	
Naphthalene	ug/L	20	13.9	13.4	70	67	52-134	4	30	
o-Xylene	ug/L	20	17.2	16.2	86	81	75-125	6	30	
p-Isopropyltoluene	ug/L	20	16.5	15.0	82	75	74-125	9	30	
sec-Butylbenzene	ug/L	20	16.8	15.7	84	78	69-134	7	30	
Styrene	ug/L	20	19.0	17.2	95	86	75-125	10	30	
tert-Amylmethyl ether	ug/L	20	21.3	20.3	106	101	70-130	5	30	
tert-Butyl Alcohol	ug/L	200	225	221	113	110	66-128	2	30	
tert-Butylbenzene	ug/L	20	15.8	14.5	79	72	71-128	9	30	
Tetrachloroethene	ug/L	20	17.1	15.7	85	78	74-125	9	30	
Tetrahydrofuran	ug/L	200	199	191	100	95	64-142	4	30	
Toluene	ug/L	20	18.7	17.1	94	85	75-125	9	30	
trans-1,2-Dichloroethene	ug/L	20	20.8	19.7	104	99	73-125	5	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	19.5	104	98	75-125	7	30	
trans-1,4-Dichloro-2-butene	ug/L	50	53.0	49.8	106	100	54-133	6	30	
Trichloroethene	ug/L	20	19.5	17.7	97	89	75-125	9	30	
Trichlorofluoromethane	ug/L	20	18.3	16.9	91	85	75-126	8	30	
Vinyl acetate	ug/L	20	25.0	24.3	125	121	67-126	3	30	
Vinyl chloride	ug/L	20	20.9	19.3	105	97	72-125	8	30	
Xylene (Total)	ug/L	60	54.5	50.6	91	84	75-125	7	30	
1,2-Dichloroethane-d4 (S)	%				99	101	75-125			
4-Bromofluorobenzene (S)	%				101	102	75-125			
Toluene-d8 (S)	%				100	100	75-125			

MATRIX SPIKE SAMPLE: 2529870		10380873001		MS		% Rec		Qualifiers	
Parameter	Units	Result	Spike Conc.	Result	% Rec	Limits			
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20.5	102	75-127			
1,1,1-Trichloroethane	ug/L	<0.057	20	22.1	110	66-142			
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.9	105	70-131			
1,1,2-Trichloroethane	ug/L	<0.064	20	21.0	105	75-128			
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	24.0	120	54-150			

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.7	119	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	22.2	111	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.0	110	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20.5	103	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.2	101	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	18.0	90	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	19.9	100	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	45.3	91	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	21.4	107	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	20.1	101	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.9	99	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	44.3	111	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	21.4	107	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20.8	104	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	20.0	100	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.5	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	19.7	99	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	385	96	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	22.8	114	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	103	103	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.5	113	71-135	
2-Hexanone	ug/L	<0.19	100	114	114	43-150	
4-Chlorotoluene	ug/L	<0.048	20	21.8	109	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	116	116	60-147	
Acetone	ug/L	<0.64	100	105	105	59-150	
Acrolein	ug/L	<2.1	200	297	149	30-150	
Acrylonitrile	ug/L	<0.49	200	227	114	41-148	
Benzene	ug/L	<0.042	20	22.1	110	61-138	
Bromobenzene	ug/L	<0.087	20	20.1	100	74-130	
Bromochloromethane	ug/L	<0.082	20	21.2	106	65-137	
Bromodichloromethane	ug/L	<0.068	20	20.8	104	66-136	
Bromoform	ug/L	<0.11	20	17.4	87	71-125	
Bromomethane	ug/L	<0.20	20	18.8	94	30-150	
Carbon disulfide	ug/L	<0.20	20	20.7	103	30-150	
Carbon tetrachloride	ug/L	<0.079	20	22.0	110	68-140	
Chlorobenzene	ug/L	<0.066	20	20.5	103	75-132	
Chloroethane	ug/L	<0.12	20	22.7	114	55-150	
Chloroform	ug/L	<0.21	20	20.4	102	64-139	
Chloromethane	ug/L	<0.080	20	21.8	109	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	21.7	108	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.1	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	20.5	103	74-125	
Dibromomethane	ug/L	<0.14	20	18.9	94	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	20.5	103	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	19.9	100	58-150	
Diisopropyl ether	ug/L	<0.050	20	24.1	121	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	23.4	117	30-140	
Ethylbenzene	ug/L	<0.075	20	20.1	101	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	22.1	110	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.5	93	65-146	
m&p-Xylene	ug/L	<0.11	40	41.5	104	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	20.8	104	63-134	
Methylene Chloride	ug/L	<0.097	20	21.4	107	49-143	
n-Butylbenzene	ug/L	<0.16	20	20.8	104	67-134	
n-Propylbenzene	ug/L	<0.049	20	21.3	106	62-142	
Naphthalene	ug/L	<0.064	20	15.3	77	41-150	
o-Xylene	ug/L	<0.044	20	19.3	97	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	19.6	98	64-137	
sec-Butylbenzene	ug/L	<0.094	20	20.1	101	65-142	
Styrene	ug/L	<0.056	20	20.8	104	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	22.0	110	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	219	110	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	19.9	100	62-142	
Tetrahydrofuran	ug/L	<1.5	200	213	106	55-150	
Toluene	ug/L	<0.059	20	20.0	100	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	22.6	113	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	21.4	107	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	52.6	105	31-150	
Trichloroethene	ug/L	<0.044	20	21.2	106	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	20.7	103	63-150	
Vinyl acetate	ug/L	<0.12	20	25.9	130	30-150	
Vinyl chloride	ug/L	<0.098	20	22.6	113	58-150	
Xylene (Total)	ug/L	<0.15	60	60.8	101	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				98	75-125	

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	
Carbon disulfide	ug/L	0.20J	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	106	104	2		
4-Bromofluorobenzene (S)	%	103	101	2		
Toluene-d8 (S)	%	101	103	2		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 463836 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 2535867 Matrix: Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	03/14/17 09:42	

LABORATORY CONTROL SAMPLE & LCSD: 2535868 2535869

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	38.6	38.7	96	97	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535870 2535871

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	178	40	40	218	217	100	98	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535872 2535873

Parameter	Units	10380962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	27.1	40	40	61.8	62.1	87	87	80-120	1	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

QC Batch: 462657

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 2529864

Matrix: Water

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	03/08/17 14:50	

LABORATORY CONTROL SAMPLE: 2529865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	972	97	80-120	

SAMPLE DUPLICATE: 2529866

Parameter	Units	10380679002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2700	2700	0	10	

SAMPLE DUPLICATE: 2529867

Parameter	Units	10380721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	223	230	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

QC Batch: 76124

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 321041

Matrix: Water

Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/09/17 12:26	

LABORATORY CONTROL SAMPLE: 321042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	91	90-110	

MATRIX SPIKE SAMPLE: 321044

Parameter	Units	2051352001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.15	75	75-125	

SAMPLE DUPLICATE: 321043

Parameter	Units	2051352001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 462563 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 2529369 Matrix: Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	03/04/17 12:33	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/04/17 12:33	
Sulfate	mg/L	<0.16	1.2	0.16	03/04/17 12:33	

LABORATORY CONTROL SAMPLE: 2529370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Nitrate as N	mg/L	1	0.93	93	90-110	
Sulfate	mg/L	12.5	12.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529371 2529372

Parameter	Units	10380873006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.3	12.5	12.5	15.5	15.6	90	90	90-110	1	20	
Nitrate as N	mg/L	<0.013	1	1	0.93	0.94	93	94	90-110	1	20	
Sulfate	mg/L	11.6	12.5	12.5	22.3	22.5	86	88	90-110	1	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529425 2529426

Parameter	Units	10380882005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.1	12.5	12.5	16.3	16.3	90	89	90-110	0	20	M1
Nitrate as N	mg/L	1.5	1	1	2.2	2.2	75	74	90-110	0	20	M1
Sulfate	mg/L	16.1	12.5	12.5	26.3	26.3	82	81	90-110	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

QC Batch: 107784 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

METHOD BLANK: 426695 Matrix: Water
Associated Lab Samples: 10380873001, 10380873002, 10380873003, 10380873004, 10380873005, 10380873006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/09/17 18:26	

LABORATORY CONTROL SAMPLE: 426696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426697 426698

Parameter	Units	10380882003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	0.99J	25	25	26.7	27.2	103	105	80-120	2	20	H3

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426699 426700

Parameter	Units	10380873002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Total Organic Carbon	mg/L	3.2	25	25	29.0	29.1	103	103	80-120	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

BATCH QUALIFIERS

Batch: 462570

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the recognized method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380873

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380873001	MW6S-GW-030217	RSK 175	462822		
10380873002	MW12S-GW-030217	RSK 175	462822		
10380873003	MW11S-GW-030217	RSK 175	462822		
10380873004	FD-030217	RSK 175	462822		
10380873005	MW16D-GW-030217	RSK 175	462822		
10380873006	MW18D-GW-030217	RSK 175	462823		
10380873001	MW6S-GW-030217	EPA 3010	462813	6010C Met	463341
10380873002	MW12S-GW-030217	EPA 3010	462813	6010C Met	463341
10380873003	MW11S-GW-030217	EPA 3010	462813	6010C Met	463341
10380873004	FD-030217	EPA 3010	462813	6010C Met	463341
10380873005	MW16D-GW-030217	EPA 3010	462813	6010C Met	463341
10380873006	MW18D-GW-030217	EPA 3010	462813	6010C Met	463341
10380873001	MW6S-GW-030217	EPA 7470A	462818	EPA 7470A	463331
10380873002	MW12S-GW-030217	EPA 7470A	462818	EPA 7470A	463331
10380873003	MW11S-GW-030217	EPA 7470A	462818	EPA 7470A	463331
10380873004	FD-030217	EPA 7470A	462818	EPA 7470A	463331
10380873005	MW16D-GW-030217	EPA 7470A	462818	EPA 7470A	463331
10380873006	MW18D-GW-030217	EPA 7470A	462818	EPA 7470A	463331
10380873001	MW6S-GW-030217	EPA 8260B	462570		
10380873002	MW12S-GW-030217	EPA 8260B	462570		
10380873003	MW11S-GW-030217	EPA 8260B	462570		
10380873004	FD-030217	EPA 8260B	462570		
10380873005	MW16D-GW-030217	EPA 8260B	462570		
10380873006	MW18D-GW-030217	EPA 8260B	462570		
10380873007	Trip Blank	EPA 8260B	462570		
10380873001	MW6S-GW-030217	SM 2320B	463836		
10380873002	MW12S-GW-030217	SM 2320B	463836		
10380873003	MW11S-GW-030217	SM 2320B	463836		
10380873004	FD-030217	SM 2320B	463836		
10380873005	MW16D-GW-030217	SM 2320B	463836		
10380873006	MW18D-GW-030217	SM 2320B	463836		
10380873001	MW6S-GW-030217	SM 2540C	462657		
10380873002	MW12S-GW-030217	SM 2540C	462657		
10380873003	MW11S-GW-030217	SM 2540C	462657		
10380873004	FD-030217	SM 2540C	462657		
10380873005	MW16D-GW-030217	SM 2540C	462657		
10380873006	MW18D-GW-030217	SM 2540C	462657		
10380873001	MW6S-GW-030217	SM 4500-S-2 D	76124		
10380873002	MW12S-GW-030217	SM 4500-S-2 D	76124		
10380873003	MW11S-GW-030217	SM 4500-S-2 D	76124		
10380873004	FD-030217	SM 4500-S-2 D	76124		
10380873005	MW16D-GW-030217	SM 4500-S-2 D	76124		
10380873006	MW18D-GW-030217	SM 4500-S-2 D	76124		
10380873001	MW6S-GW-030217	EPA 300.0	462563		
10380873002	MW12S-GW-030217	EPA 300.0	462563		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380873

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380873003	MW11S-GW-030217	EPA 300.0	462563		
10380873004	FD-030217	EPA 300.0	462563		
10380873005	MW16D-GW-030217	EPA 300.0	462563		
10380873006	MW18D-GW-030217	EPA 300.0	462563		
10380873001	MW6S-GW-030217	SM 5310C	107784		
10380873002	MW12S-GW-030217	SM 5310C	107784		
10380873003	MW11S-GW-030217	SM 5310C	107784		
10380873004	FD-030217	SM 5310C	107784		
10380873005	MW16D-GW-030217	SM 5310C	107784		
10380873006	MW18D-GW-030217	SM 5310C	107784		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs
 Client Name: CH2M Hill
 Project #: WO# : 10380873

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
Tracking Number: 7021 45755440, 5420
Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____
 Temp Blank? Yes No
Thermometer 151401163 151401164
 Type of Ice: Wet Blue None
 Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.6, 0.4
Cooler Temp Corrected (°C): 0.7, 0.5
Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C
Correction Factor: ±0.1
Date and Initials of Person Examining Contents: RG 3/4/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>1-6</u> <u>6/6</u> <u>6/6</u>
(HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15. <u>only 2 trip blanks</u>
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>109137</u>	

CLIENT NOTIFICATION/RESOLUTION
 Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>10:13</u>	Temp: <u>0.6, 0.4</u>	Corrected Temp: <u>0.7, 0.5</u>
Time: <u>10:33</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: JENNI GROSS
 Date: 03/06/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 2051316



Sample Condition Upon Re

PM: ADC

Due Date: 03/20/17

CLIENT: PASI-MINN

1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Proje

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3-2-17 TMB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Chain of Custody

WO# : 1283831

PM: CLJ Due Date: 03/20/17
 CLIENT: PACE MPLS

Page 1 of 65
 Analytical
 celabs.com

Workorder: 10380873

Workorder Name: 1497 UPRR_Freeman

Owner Received Date: 3/4/2017

Results Requested By: 3/20/2017

Report To	Subcontract To	Requested Analysis																		
Jennifer Gross Pace Analytical Seattle 596 Industry Drive, Suite 602 Tukwila, WA 98188 Phone (206)957-2426	Pace Analytical Virginia MN 315 Chestnut Street Virginia, MN 55792 Phone (218)742-1042																			

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers										LAB USE ONLY				
						H2SO4														
1	MW6S-GW-030217	PS	3/2/2017 08:45	10380873001	Water	3														
2	MW12S-GW-030217	PS	3/2/2017 10:00	10380873002	Water	3														001
3	MW11S-GW-030217	PS	3/2/2017 10:50	10380873003	Water	3														002
4	FD-030217	PS	3/2/2017 11:00	10380873004	Water	3														003
5	MW16D-GW-030217	PS	3/2/2017 13:45	10380873005	Water	3														004
6	MW18D-GW-030217	PS	3/2/2017 16:20	10380873006	Water	3														005

Transfers						Comments														
Released By	Date/Time	Received By	Date/Time																	
Ann Osp	Pace MN 3/6/17 11:15	[Signature]	3-8-17 10:10																	

Cooler Temperature on Receipt 0.7 °C Custody Seal Y or N Received on Ice Y or N Samples Intact Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
 This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Client Name: Pace MNPLS Project #: _____

WO#: 1283831
 PM: CLJ Due Date: 03/20/17
 CLIENT: PACE MPLS

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: SD

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 0.4 Cooler Temp Corrected °C: 0.7 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: 3-8-17 WT

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: [Signature] Date: 3-8-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 07, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380874

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10380874

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380874001	THORSON-GW-030217	Water	03/02/17 08:00	03/04/17 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10380874

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380874001	THORSON-GW-030217	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 07, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462570

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

Sample: **THORSON-GW-030217** Lab ID: **10380874001** Collected: 03/02/17 08:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 22:59	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 22:59	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 22:59	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 22:59	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 22:59	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 22:59	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 22:59	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 22:59	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 22:59	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 22:59	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 22:59	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 22:59	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 22:59	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 22:59	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 22:59	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 22:59	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 22:59	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 22:59	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 22:59	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 22:59	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 22:59	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 22:59	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 22:59	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 22:59	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 22:59	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 22:59	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 22:59	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 22:59	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 22:59	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 22:59	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 22:59	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 22:59	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 22:59	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 22:59	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 22:59	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 22:59	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 22:59	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 22:59	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 22:59	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 22:59	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 22:59	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 22:59	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 22:59	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 22:59	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 22:59	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 22:59	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

Sample: THORSON-GW-030217 **Lab ID: 10380874001** Collected: 03/02/17 08:00 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 22:59	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 22:59	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 22:59	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 22:59	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 22:59	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 22:59	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 22:59	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 22:59	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 22:59	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 22:59	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 22:59	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 22:59	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 22:59	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 22:59	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 22:59	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 22:59	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 22:59	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 22:59	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 22:59	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 22:59	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 22:59	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 22:59	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 22:59	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 22:59	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 22:59	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 22:59	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 22:59	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 22:59	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 22:59	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 22:59	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 22:59	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 22:59	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 22:59	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 22:59	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		03/04/17 22:59	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		03/04/17 22:59	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 22:59	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380874

QC Batch: 462570 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380874001

METHOD BLANK: 2529515 Matrix: Water
Associated Lab Samples: 10380874001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/04/17 18:53	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/04/17 18:53	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/04/17 18:53	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/04/17 18:53	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/04/17 18:53	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/04/17 18:53	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/04/17 18:53	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/04/17 18:53	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/04/17 18:53	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/04/17 18:53	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/04/17 18:53	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/04/17 18:53	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/04/17 18:53	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/04/17 18:53	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/04/17 18:53	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/04/17 18:53	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/04/17 18:53	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/04/17 18:53	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/04/17 18:53	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/04/17 18:53	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/04/17 18:53	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/04/17 18:53	
Acetone	ug/L	<0.64	20.0	0.64	03/04/17 18:53	
Acrolein	ug/L	<2.1	10.0	2.1	03/04/17 18:53	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/04/17 18:53	
Benzene	ug/L	<0.042	0.50	0.042	03/04/17 18:53	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/04/17 18:53	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/04/17 18:53	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/04/17 18:53	
Bromoform	ug/L	<0.11	4.0	0.11	03/04/17 18:53	
Bromomethane	ug/L	<0.20	4.0	0.20	03/04/17 18:53	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/04/17 18:53	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/04/17 18:53	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380874

METHOD BLANK: 2529515 Matrix: Water
Associated Lab Samples: 10380874001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/04/17 18:53	
Chloroethane	ug/L	<0.12	1.0	0.12	03/04/17 18:53	
Chloroform	ug/L	<0.21	1.0	0.21	03/04/17 18:53	
Chloromethane	ug/L	<0.080	4.0	0.080	03/04/17 18:53	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/04/17 18:53	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/04/17 18:53	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/04/17 18:53	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/04/17 18:53	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/04/17 18:53	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/04/17 18:53	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/04/17 18:53	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/04/17 18:53	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/04/17 18:53	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/04/17 18:53	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/04/17 18:53	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/04/17 18:53	
Naphthalene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/04/17 18:53	MN
Styrene	ug/L	<0.056	4.0	0.056	03/04/17 18:53	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/04/17 18:53	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/04/17 18:53	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/04/17 18:53	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/04/17 18:53	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/04/17 18:53	
Toluene	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/04/17 18:53	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/04/17 18:53	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/04/17 18:53	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/04/17 18:53	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/04/17 18:53	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/04/17 18:53	
1,2-Dichloroethane-d4 (S)	%	100	75-125		03/04/17 18:53	
4-Bromofluorobenzene (S)	%	103	75-125		03/04/17 18:53	
Toluene-d8 (S)	%	104	75-125		03/04/17 18:53	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	18.0	99	90	75-125	10	30		
1,1,1-Trichloroethane	ug/L	20	20.0	18.5	100	92	74-125	8	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	19.6	105	98	67-131	7	30		
1,1,2-Trichloroethane	ug/L	20	21.1	19.5	105	97	75-125	8	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	17.8	98	89	75-125	9	30		
1,1-Dichloroethane	ug/L	20	22.1	20.9	111	105	74-125	6	30		
1,1-Dichloroethene	ug/L	20	19.2	18.2	96	91	74-125	6	30		
1,1-Dichloropropene	ug/L	20	18.6	17.9	93	90	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	17.9	17.3	89	86	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.9	19.1	104	95	73-125	9	30		
1,2,4-Trichlorobenzene	ug/L	20	15.9	15.3	79	77	66-126	4	30		
1,2,4-Trimethylbenzene	ug/L	20	17.8	16.4	89	82	74-129	8	30		
1,2-Dibromo-3-chloropropane	ug/L	50	47.0	41.6	94	83	54-129	12	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.1	19.8	106	99	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	18.6	17.4	93	87	75-125	7	30		
1,2-Dichloroethane	ug/L	20	19.1	18.1	95	91	75-125	5	30		
1,2-Dichloroethene (Total)	ug/L	40	40.5	38.7	101	97	75-125	5	30		
1,2-Dichloropropane	ug/L	20	20.7	19.0	103	95	75-125	8	30		
1,3,5-Trimethylbenzene	ug/L	20	18.3	17.0	92	85	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	18.7	17.3	94	87	75-125	8	30		
1,3-Dichloropropane	ug/L	20	20.3	19.2	102	96	69-125	5	30		
1,4-Dichlorobenzene	ug/L	20	18.5	17.2	92	86	75-125	7	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	417	409	104	102	70-130	2	30		
2,2,4-Trimethylpentane	ug/L	20	20.0	19.2	100	96	67-138	4	30		
2,2-Dichloropropane	ug/L	20	20.2	18.9	101	94	69-125	7	30		
2-Butanone (MEK)	ug/L	100	104	97.8	104	98	48-145	6	30		
2-Chlorotoluene	ug/L	20	20.3	18.6	102	93	74-125	9	30		
2-Hexanone	ug/L	100	115	104	115	104	63-135	10	30		
4-Chlorotoluene	ug/L	20	19.7	18.3	98	91	73-125	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	118	107	118	107	53-138	10	30		
Acetone	ug/L	100	108	103	108	103	70-142	4	30		
Acrolein	ug/L	200	234	217	117	109	44-150	7	30		
Acrylonitrile	ug/L	200	230	216	115	108	68-125	6	30		
Benzene	ug/L	20	20.6	19.1	103	96	65-125	8	30		
Bromobenzene	ug/L	20	19.1	17.6	96	88	75-125	8	30		
Bromochloromethane	ug/L	20	20.3	18.9	101	95	75-125	7	30		
Bromodichloromethane	ug/L	20	20.5	19.1	103	96	73-125	7	30		
Bromoform	ug/L	20	17.5	16.5	87	83	69-125	6	30		
Bromomethane	ug/L	20	16.7	16.7	84	83	40-136	0	30		
Carbon disulfide	ug/L	20	18.6	17.2	93	86	36-150	8	30		
Carbon tetrachloride	ug/L	20	19.2	17.9	96	90	70-125	7	30		
Chlorobenzene	ug/L	20	19.4	17.9	97	89	75-125	8	30		
Chloroethane	ug/L	20	23.2	21.1	116	105	67-141	10	30		
Chloroform	ug/L	20	19.2	18.1	96	90	75-125	6	30		
Chloromethane	ug/L	20	22.6	20.6	113	103	50-150	9	30		
cis-1,2-Dichloroethene	ug/L	20	19.7	19.0	98	95	75-125	4	30		
cis-1,3-Dichloropropene	ug/L	20	21.0	19.3	105	97	75-125	8	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	20.2	19.0	101	95	75-125	6	30	
Dibromomethane	ug/L	20	19.4	17.8	97	89	75-129	8	30	
Dichlorodifluoromethane	ug/L	20	17.4	15.9	87	80	59-135	9	30	
Dichlorofluoromethane	ug/L	20	20.3	19.0	102	95	74-130	7	30	
Diisopropyl ether	ug/L	20	22.4	21.9	112	110	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	21.7	21.2	108	106	70-130	2	30	
Ethylbenzene	ug/L	20	18.4	16.9	92	84	75-125	9	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	16.6	85	83	72-126	3	30	
Isopropylbenzene (Cumene)	ug/L	20	16.2	14.9	81	74	71-136	9	30	
m&p-Xylene	ug/L	40	37.3	34.3	93	86	75-125	8	30	
Methyl-tert-butyl ether	ug/L	20	20.0	19.5	100	98	73-127	3	30	
Methylene Chloride	ug/L	20	20.6	19.5	103	97	68-128	6	30	
n-Butylbenzene	ug/L	20	16.8	15.6	84	78	70-126	7	30	
n-Propylbenzene	ug/L	20	18.3	16.7	91	84	67-131	9	30	
Naphthalene	ug/L	20	13.9	13.4	70	67	52-134	4	30	
o-Xylene	ug/L	20	17.2	16.2	86	81	75-125	6	30	
p-Isopropyltoluene	ug/L	20	16.5	15.0	82	75	74-125	9	30	
sec-Butylbenzene	ug/L	20	16.8	15.7	84	78	69-134	7	30	
Styrene	ug/L	20	19.0	17.2	95	86	75-125	10	30	
tert-Amylmethyl ether	ug/L	20	21.3	20.3	106	101	70-130	5	30	
tert-Butyl Alcohol	ug/L	200	225	221	113	110	66-128	2	30	
tert-Butylbenzene	ug/L	20	15.8	14.5	79	72	71-128	9	30	
Tetrachloroethene	ug/L	20	17.1	15.7	85	78	74-125	9	30	
Tetrahydrofuran	ug/L	200	199	191	100	95	64-142	4	30	
Toluene	ug/L	20	18.7	17.1	94	85	75-125	9	30	
trans-1,2-Dichloroethene	ug/L	20	20.8	19.7	104	99	73-125	5	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	19.5	104	98	75-125	7	30	
trans-1,4-Dichloro-2-butene	ug/L	50	53.0	49.8	106	100	54-133	6	30	
Trichloroethene	ug/L	20	19.5	17.7	97	89	75-125	9	30	
Trichlorofluoromethane	ug/L	20	18.3	16.9	91	85	75-126	8	30	
Vinyl acetate	ug/L	20	25.0	24.3	125	121	67-126	3	30	
Vinyl chloride	ug/L	20	20.9	19.3	105	97	72-125	8	30	
Xylene (Total)	ug/L	60	54.5	50.6	91	84	75-125	7	30	
1,2-Dichloroethane-d4 (S)	%				99	101	75-125			
4-Bromofluorobenzene (S)	%				101	102	75-125			
Toluene-d8 (S)	%				100	100	75-125			

MATRIX SPIKE SAMPLE: 2529870		10380873001						
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20.5	102	75-127		
1,1,1-Trichloroethane	ug/L	<0.057	20	22.1	110	66-142		
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.9	105	70-131		
1,1,2-Trichloroethane	ug/L	<0.064	20	21.0	105	75-128		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	24.0	120	54-150		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.7	119	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	22.2	111	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.0	110	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20.5	103	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.2	101	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	18.0	90	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	19.9	100	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	45.3	91	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	21.4	107	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	20.1	101	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.9	99	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	44.3	111	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	21.4	107	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20.8	104	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	20.0	100	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.5	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	19.7	99	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	385	96	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	22.8	114	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	103	103	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.5	113	71-135	
2-Hexanone	ug/L	<0.19	100	114	114	43-150	
4-Chlorotoluene	ug/L	<0.048	20	21.8	109	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	116	116	60-147	
Acetone	ug/L	<0.64	100	105	105	59-150	
Acrolein	ug/L	<2.1	200	297	149	30-150	
Acrylonitrile	ug/L	<0.49	200	227	114	41-148	
Benzene	ug/L	<0.042	20	22.1	110	61-138	
Bromobenzene	ug/L	<0.087	20	20.1	100	74-130	
Bromochloromethane	ug/L	<0.082	20	21.2	106	65-137	
Bromodichloromethane	ug/L	<0.068	20	20.8	104	66-136	
Bromoform	ug/L	<0.11	20	17.4	87	71-125	
Bromomethane	ug/L	<0.20	20	18.8	94	30-150	
Carbon disulfide	ug/L	<0.20	20	20.7	103	30-150	
Carbon tetrachloride	ug/L	<0.079	20	22.0	110	68-140	
Chlorobenzene	ug/L	<0.066	20	20.5	103	75-132	
Chloroethane	ug/L	<0.12	20	22.7	114	55-150	
Chloroform	ug/L	<0.21	20	20.4	102	64-139	
Chloromethane	ug/L	<0.080	20	21.8	109	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	21.7	108	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.1	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	20.5	103	74-125	
Dibromomethane	ug/L	<0.14	20	18.9	94	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	20.5	103	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	19.9	100	58-150	
Diisopropyl ether	ug/L	<0.050	20	24.1	121	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380874

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	23.4	117	30-140	
Ethylbenzene	ug/L	<0.075	20	20.1	101	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	22.1	110	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.5	93	65-146	
m&p-Xylene	ug/L	<0.11	40	41.5	104	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	20.8	104	63-134	
Methylene Chloride	ug/L	<0.097	20	21.4	107	49-143	
n-Butylbenzene	ug/L	<0.16	20	20.8	104	67-134	
n-Propylbenzene	ug/L	<0.049	20	21.3	106	62-142	
Naphthalene	ug/L	<0.064	20	15.3	77	41-150	
o-Xylene	ug/L	<0.044	20	19.3	97	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	19.6	98	64-137	
sec-Butylbenzene	ug/L	<0.094	20	20.1	101	65-142	
Styrene	ug/L	<0.056	20	20.8	104	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	22.0	110	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	219	110	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	19.9	100	62-142	
Tetrahydrofuran	ug/L	<1.5	200	213	106	55-150	
Toluene	ug/L	<0.059	20	20.0	100	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	22.6	113	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	21.4	107	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	52.6	105	31-150	
Trichloroethene	ug/L	<0.044	20	21.2	106	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	20.7	103	63-150	
Vinyl acetate	ug/L	<0.12	20	25.9	130	30-150	
Vinyl chloride	ug/L	<0.098	20	22.6	113	58-150	
Xylene (Total)	ug/L	<0.15	60	60.8	101	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				98	75-125	

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	
Carbon disulfide	ug/L	0.20J	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	106	104	2		
4-Bromofluorobenzene (S)	%	103	101	2		
Toluene-d8 (S)	%	101	103	2		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462570

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380874

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380874001	THORSON-GW-030217	EPA 8260B	462570		

REPORT OF LABORATORY ANALYSIS

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Document Name:
Sample Condition Upon Receipt Form - ESI
 Document No.:
F-MN-L-210-rev.22

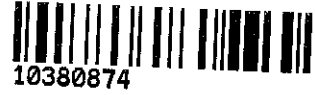
Document Revised: 21Dec2016
 Page 1 of 2
 Issuing Authority:
 Pace Minnesota Quality Office

Sample Condition
 Upon Receipt - ESI
 Tech Specs

Client Name:
CH2M Hill

Project #:

WO#: **10380874**



10380874

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other:

Tracking Number: 7021 4575 5410, 5430

Custody Seal on Cooler/Box Present? Yes No
 Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other:

Thermometer Used: 151401163
 151401164

Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.60.4

Cooler Temp Corrected (°C): 0.7.0.5

Biological Tissue Frozen? Yes No NA

Temp should be above freezing to 6°C

Correction Factor: 10.1

Date and Initials of Person Examining Contents: RL 3/4/17

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC/DIC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: Lindsey Baumann

Date/Time: 03/03/17 15:20

Comments/Resolution: Steve changed to 2 day turnaround.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins	
Opened Time: <u>10:13</u>	Temp: <u>0.6, 0.4</u>
Time: <u>10:33</u>	put-in-cooler
Time:	Temp:
Corrected Temp: <u>0.7.0.5</u>	

Project Manager Review:

JENNI GROSS

Date: 03/06/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 07, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380880001	STARK-GW-030317	Water	03/03/17 10:50	03/04/17 09:20

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380880001	STARK-GW-030317	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 07, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462570

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Sample: **STARK-GW-030317** Lab ID: **10380880001** Collected: 03/03/17 10:50 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 23:43	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 23:43	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 23:43	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 23:43	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 23:43	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 23:43	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 23:43	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 23:43	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 23:43	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 23:43	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 23:43	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 23:43	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 23:43	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 23:43	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 23:43	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 23:43	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 23:43	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 23:43	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 23:43	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 23:43	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 23:43	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 23:43	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 23:43	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 23:43	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 23:43	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 23:43	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 23:43	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 23:43	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 23:43	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 23:43	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 23:43	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 23:43	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 23:43	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 23:43	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 23:43	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 23:43	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 23:43	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 23:43	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 23:43	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 23:43	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 23:43	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 23:43	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 23:43	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 23:43	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 23:43	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 23:43	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Sample: **STARK-GW-030317** Lab ID: **10380880001** Collected: 03/03/17 10:50 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 23:43	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 23:43	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 23:43	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 23:43	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 23:43	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 23:43	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 23:43	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 23:43	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 23:43	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 23:43	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 23:43	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 23:43	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 23:43	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 23:43	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 23:43	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 23:43	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 23:43	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 23:43	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 23:43	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 23:43	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 23:43	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 23:43	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 23:43	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 23:43	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 23:43	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 23:43	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 23:43	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 23:43	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 23:43	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 23:43	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 23:43	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 23:43	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 23:43	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 23:43	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		03/04/17 23:43	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/04/17 23:43	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 23:43	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

QC Batch: 462570 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380880001

METHOD BLANK: 2529515 Matrix: Water
Associated Lab Samples: 10380880001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/04/17 18:53	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/04/17 18:53	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/04/17 18:53	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/04/17 18:53	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/04/17 18:53	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/04/17 18:53	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/04/17 18:53	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/04/17 18:53	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/04/17 18:53	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/04/17 18:53	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/04/17 18:53	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/04/17 18:53	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/04/17 18:53	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/04/17 18:53	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/04/17 18:53	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/04/17 18:53	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/04/17 18:53	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/04/17 18:53	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/04/17 18:53	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/04/17 18:53	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/04/17 18:53	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/04/17 18:53	
Acetone	ug/L	<0.64	20.0	0.64	03/04/17 18:53	
Acrolein	ug/L	<2.1	10.0	2.1	03/04/17 18:53	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/04/17 18:53	
Benzene	ug/L	<0.042	0.50	0.042	03/04/17 18:53	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/04/17 18:53	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/04/17 18:53	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/04/17 18:53	
Bromoform	ug/L	<0.11	4.0	0.11	03/04/17 18:53	
Bromomethane	ug/L	<0.20	4.0	0.20	03/04/17 18:53	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/04/17 18:53	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/04/17 18:53	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

METHOD BLANK: 2529515 Matrix: Water
Associated Lab Samples: 10380880001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/04/17 18:53	
Chloroethane	ug/L	<0.12	1.0	0.12	03/04/17 18:53	
Chloroform	ug/L	<0.21	1.0	0.21	03/04/17 18:53	
Chloromethane	ug/L	<0.080	4.0	0.080	03/04/17 18:53	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/04/17 18:53	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/04/17 18:53	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/04/17 18:53	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/04/17 18:53	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/04/17 18:53	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/04/17 18:53	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/04/17 18:53	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/04/17 18:53	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/04/17 18:53	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/04/17 18:53	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/04/17 18:53	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/04/17 18:53	
Naphthalene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/04/17 18:53	MN
Styrene	ug/L	<0.056	4.0	0.056	03/04/17 18:53	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/04/17 18:53	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/04/17 18:53	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/04/17 18:53	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/04/17 18:53	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/04/17 18:53	
Toluene	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/04/17 18:53	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/04/17 18:53	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/04/17 18:53	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/04/17 18:53	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/04/17 18:53	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/04/17 18:53	
1,2-Dichloroethane-d4 (S)	%	100	75-125		03/04/17 18:53	
4-Bromofluorobenzene (S)	%	103	75-125		03/04/17 18:53	
Toluene-d8 (S)	%	104	75-125		03/04/17 18:53	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	18.0	99	90	75-125	10	30		
1,1,1-Trichloroethane	ug/L	20	20.0	18.5	100	92	74-125	8	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	19.6	105	98	67-131	7	30		
1,1,2-Trichloroethane	ug/L	20	21.1	19.5	105	97	75-125	8	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	17.8	98	89	75-125	9	30		
1,1-Dichloroethane	ug/L	20	22.1	20.9	111	105	74-125	6	30		
1,1-Dichloroethene	ug/L	20	19.2	18.2	96	91	74-125	6	30		
1,1-Dichloropropene	ug/L	20	18.6	17.9	93	90	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	17.9	17.3	89	86	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.9	19.1	104	95	73-125	9	30		
1,2,4-Trichlorobenzene	ug/L	20	15.9	15.3	79	77	66-126	4	30		
1,2,4-Trimethylbenzene	ug/L	20	17.8	16.4	89	82	74-129	8	30		
1,2-Dibromo-3-chloropropane	ug/L	50	47.0	41.6	94	83	54-129	12	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.1	19.8	106	99	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	18.6	17.4	93	87	75-125	7	30		
1,2-Dichloroethane	ug/L	20	19.1	18.1	95	91	75-125	5	30		
1,2-Dichloroethene (Total)	ug/L	40	40.5	38.7	101	97	75-125	5	30		
1,2-Dichloropropane	ug/L	20	20.7	19.0	103	95	75-125	8	30		
1,3,5-Trimethylbenzene	ug/L	20	18.3	17.0	92	85	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	18.7	17.3	94	87	75-125	8	30		
1,3-Dichloropropane	ug/L	20	20.3	19.2	102	96	69-125	5	30		
1,4-Dichlorobenzene	ug/L	20	18.5	17.2	92	86	75-125	7	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	417	409	104	102	70-130	2	30		
2,2,4-Trimethylpentane	ug/L	20	20.0	19.2	100	96	67-138	4	30		
2,2-Dichloropropane	ug/L	20	20.2	18.9	101	94	69-125	7	30		
2-Butanone (MEK)	ug/L	100	104	97.8	104	98	48-145	6	30		
2-Chlorotoluene	ug/L	20	20.3	18.6	102	93	74-125	9	30		
2-Hexanone	ug/L	100	115	104	115	104	63-135	10	30		
4-Chlorotoluene	ug/L	20	19.7	18.3	98	91	73-125	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	118	107	118	107	53-138	10	30		
Acetone	ug/L	100	108	103	108	103	70-142	4	30		
Acrolein	ug/L	200	234	217	117	109	44-150	7	30		
Acrylonitrile	ug/L	200	230	216	115	108	68-125	6	30		
Benzene	ug/L	20	20.6	19.1	103	96	65-125	8	30		
Bromobenzene	ug/L	20	19.1	17.6	96	88	75-125	8	30		
Bromochloromethane	ug/L	20	20.3	18.9	101	95	75-125	7	30		
Bromodichloromethane	ug/L	20	20.5	19.1	103	96	73-125	7	30		
Bromoform	ug/L	20	17.5	16.5	87	83	69-125	6	30		
Bromomethane	ug/L	20	16.7	16.7	84	83	40-136	0	30		
Carbon disulfide	ug/L	20	18.6	17.2	93	86	36-150	8	30		
Carbon tetrachloride	ug/L	20	19.2	17.9	96	90	70-125	7	30		
Chlorobenzene	ug/L	20	19.4	17.9	97	89	75-125	8	30		
Chloroethane	ug/L	20	23.2	21.1	116	105	67-141	10	30		
Chloroform	ug/L	20	19.2	18.1	96	90	75-125	6	30		
Chloromethane	ug/L	20	22.6	20.6	113	103	50-150	9	30		
cis-1,2-Dichloroethene	ug/L	20	19.7	19.0	98	95	75-125	4	30		
cis-1,3-Dichloropropene	ug/L	20	21.0	19.3	105	97	75-125	8	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	20.2	19.0	101	95	75-125	6	30	
Dibromomethane	ug/L	20	19.4	17.8	97	89	75-129	8	30	
Dichlorodifluoromethane	ug/L	20	17.4	15.9	87	80	59-135	9	30	
Dichlorofluoromethane	ug/L	20	20.3	19.0	102	95	74-130	7	30	
Diisopropyl ether	ug/L	20	22.4	21.9	112	110	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	21.7	21.2	108	106	70-130	2	30	
Ethylbenzene	ug/L	20	18.4	16.9	92	84	75-125	9	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	16.6	85	83	72-126	3	30	
Isopropylbenzene (Cumene)	ug/L	20	16.2	14.9	81	74	71-136	9	30	
m&p-Xylene	ug/L	40	37.3	34.3	93	86	75-125	8	30	
Methyl-tert-butyl ether	ug/L	20	20.0	19.5	100	98	73-127	3	30	
Methylene Chloride	ug/L	20	20.6	19.5	103	97	68-128	6	30	
n-Butylbenzene	ug/L	20	16.8	15.6	84	78	70-126	7	30	
n-Propylbenzene	ug/L	20	18.3	16.7	91	84	67-131	9	30	
Naphthalene	ug/L	20	13.9	13.4	70	67	52-134	4	30	
o-Xylene	ug/L	20	17.2	16.2	86	81	75-125	6	30	
p-Isopropyltoluene	ug/L	20	16.5	15.0	82	75	74-125	9	30	
sec-Butylbenzene	ug/L	20	16.8	15.7	84	78	69-134	7	30	
Styrene	ug/L	20	19.0	17.2	95	86	75-125	10	30	
tert-Amylmethyl ether	ug/L	20	21.3	20.3	106	101	70-130	5	30	
tert-Butyl Alcohol	ug/L	200	225	221	113	110	66-128	2	30	
tert-Butylbenzene	ug/L	20	15.8	14.5	79	72	71-128	9	30	
Tetrachloroethene	ug/L	20	17.1	15.7	85	78	74-125	9	30	
Tetrahydrofuran	ug/L	200	199	191	100	95	64-142	4	30	
Toluene	ug/L	20	18.7	17.1	94	85	75-125	9	30	
trans-1,2-Dichloroethene	ug/L	20	20.8	19.7	104	99	73-125	5	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	19.5	104	98	75-125	7	30	
trans-1,4-Dichloro-2-butene	ug/L	50	53.0	49.8	106	100	54-133	6	30	
Trichloroethene	ug/L	20	19.5	17.7	97	89	75-125	9	30	
Trichlorofluoromethane	ug/L	20	18.3	16.9	91	85	75-126	8	30	
Vinyl acetate	ug/L	20	25.0	24.3	125	121	67-126	3	30	
Vinyl chloride	ug/L	20	20.9	19.3	105	97	72-125	8	30	
Xylene (Total)	ug/L	60	54.5	50.6	91	84	75-125	7	30	
1,2-Dichloroethane-d4 (S)	%				99	101	75-125			
4-Bromofluorobenzene (S)	%				101	102	75-125			
Toluene-d8 (S)	%				100	100	75-125			

MATRIX SPIKE SAMPLE: 2529870		10380873001		MS		% Rec		Qualifiers	
Parameter	Units	Result	Spike Conc.	Result	% Rec	Limits			
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20.5	102	75-127			
1,1,1-Trichloroethane	ug/L	<0.057	20	22.1	110	66-142			
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.9	105	70-131			
1,1,2-Trichloroethane	ug/L	<0.064	20	21.0	105	75-128			
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	24.0	120	54-150			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.7	119	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	22.2	111	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.0	110	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20.5	103	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.2	101	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	18.0	90	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	19.9	100	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	45.3	91	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	21.4	107	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	20.1	101	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.9	99	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	44.3	111	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	21.4	107	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20.8	104	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	20.0	100	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.5	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	19.7	99	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	385	96	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	22.8	114	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	103	103	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.5	113	71-135	
2-Hexanone	ug/L	<0.19	100	114	114	43-150	
4-Chlorotoluene	ug/L	<0.048	20	21.8	109	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	116	116	60-147	
Acetone	ug/L	<0.64	100	105	105	59-150	
Acrolein	ug/L	<2.1	200	297	149	30-150	
Acrylonitrile	ug/L	<0.49	200	227	114	41-148	
Benzene	ug/L	<0.042	20	22.1	110	61-138	
Bromobenzene	ug/L	<0.087	20	20.1	100	74-130	
Bromochloromethane	ug/L	<0.082	20	21.2	106	65-137	
Bromodichloromethane	ug/L	<0.068	20	20.8	104	66-136	
Bromoform	ug/L	<0.11	20	17.4	87	71-125	
Bromomethane	ug/L	<0.20	20	18.8	94	30-150	
Carbon disulfide	ug/L	<0.20	20	20.7	103	30-150	
Carbon tetrachloride	ug/L	<0.079	20	22.0	110	68-140	
Chlorobenzene	ug/L	<0.066	20	20.5	103	75-132	
Chloroethane	ug/L	<0.12	20	22.7	114	55-150	
Chloroform	ug/L	<0.21	20	20.4	102	64-139	
Chloromethane	ug/L	<0.080	20	21.8	109	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	21.7	108	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.1	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	20.5	103	74-125	
Dibromomethane	ug/L	<0.14	20	18.9	94	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	20.5	103	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	19.9	100	58-150	
Diisopropyl ether	ug/L	<0.050	20	24.1	121	50-139	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	23.4	117	30-140	
Ethylbenzene	ug/L	<0.075	20	20.1	101	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	22.1	110	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.5	93	65-146	
m&p-Xylene	ug/L	<0.11	40	41.5	104	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	20.8	104	63-134	
Methylene Chloride	ug/L	<0.097	20	21.4	107	49-143	
n-Butylbenzene	ug/L	<0.16	20	20.8	104	67-134	
n-Propylbenzene	ug/L	<0.049	20	21.3	106	62-142	
Naphthalene	ug/L	<0.064	20	15.3	77	41-150	
o-Xylene	ug/L	<0.044	20	19.3	97	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	19.6	98	64-137	
sec-Butylbenzene	ug/L	<0.094	20	20.1	101	65-142	
Styrene	ug/L	<0.056	20	20.8	104	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	22.0	110	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	219	110	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	19.9	100	62-142	
Tetrahydrofuran	ug/L	<1.5	200	213	106	55-150	
Toluene	ug/L	<0.059	20	20.0	100	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	22.6	113	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	21.4	107	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	52.6	105	31-150	
Trichloroethene	ug/L	<0.044	20	21.2	106	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	20.7	103	63-150	
Vinyl acetate	ug/L	<0.12	20	25.9	130	30-150	
Vinyl chloride	ug/L	<0.098	20	22.6	113	58-150	
Xylene (Total)	ug/L	<0.15	60	60.8	101	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				98	75-125	

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	
Carbon disulfide	ug/L	0.20J	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	106	104	2		
4-Bromofluorobenzene (S)	%	103	101	2		
Toluene-d8 (S)	%	101	103	2		

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QUALIFIERS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380880

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462570

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380880

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380880001	STARK-GW-030317	EPA 8260B	462570		

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10380880

Section A

Required Client Information:

Company: CH2M Hill
 Address: 999 W. Riverside Ave, Suite 500
 Spokane, WA 99201
 Email: mark.Ochsner@ch2n.com
 Phone: _____ Fax _____
 Requested Due Date/Circle: 24 Hour / 5 Day / 40 Day

Section B

Required Project Information:

Report To: Mark Ochsner, Brad Ostapkowicz
 Copy To: Steve Demus
 Purchase Order #:
 Project Name: UPRR_Freeman
 Project #: 1497

Section C

Invoice Information:

Attention: Gary Honeyman
 Company Name: UPRR
 Address: CAS
 Pace Quote:
 Pace Project Manager:
 Pace Profile #: 36447 / 6

Page : 1 Of 1

Regulatory Agency
 State / Location
 WA / Freeman

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-GRAB C-COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analyses Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)						
				START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2SO3	Methanol	Other	Low Level VOCs by 8260	6010/7470 TAL Metals		2320 Alkalinity	Chloride, Sulfate, Nitrate 300.0	2540 TDS	TOC 6310	Sulfide 4500	Methane, Ethane, Ethene RSK175	BOD 10360W	COD 410.4	CSIA of CTET (8260 Must be analyzed)								
				DATE	TIME	DATE	TIME																														
1	STARK																																				
2	STARK-GW-03037		WIG	3/3/17	10:50			3				X																								48 hr TAT Cool	
3																																					
4																																					
5																																					
6																																					
7																																					
8																																					
9																																					
10																																					
11																																					
12																																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Short hold analyses are in bold 48 hr TAT	<i>[Signature]</i>	3/3/17	10:50	<i>[Signature]</i>	3/14/17	9:20	1.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: *Ronald McCorn*
 SIGNATURE of SAMPLER: *Ronald McCorn* DATE Signed: 3/3/17

TEMP in C
 Received on Ice (Y/N)
 Custody Sealed (Y/N)
 Cooler (Y/N)
 Samples Intact (Y/N)

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M

Project #: _____

WO# : 10380880



Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____
Tracking Number: 7021 4575 3805

Custody Seal on Cooler/Box Present? Yes No **Seals intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No

Thermometer Used: 151401163 151401164 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.1 **Cooler Temp Corrected (°C):** 1.2 **Biological Tissue Frozen?** Yes No NA
 Temp should be above freezing to 6°C **Correction Factor:** +0.1 **Date and Initials of Person Examining Contents:** KR 3-4-17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No **Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?** Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. <u>No MS/MSD</u>
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
(HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exceptions: <u>VOA</u> , Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. Per method, VOA pH is checked after analysis	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:42</u>	Temp: <u>1.1</u>	Corrected Temp: <u>1.2</u>
Time: <u>11:50</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: _____

JENNI GROSS

Date: 03/06/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 07, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

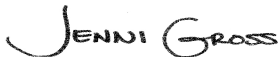
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380881

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10380881

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380881001	MW3D-GW-030317	Water	03/03/17 08:20	03/04/17 09:20
10380881002	MW8S-GW-030317	Water	03/03/17 09:25	03/04/17 09:20
10380881003	MW10S-GW-030317	Water	03/03/17 10:10	03/04/17 09:20
10380881004	W20-GW-030317	Water	03/03/17 12:35	03/04/17 09:20
10380881005	MW4D-GW-030317	Water	03/03/17 14:20	03/04/17 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380881001	MW3D-GW-030317	EPA 8260B	DJB	83	PASI-M
10380881002	MW8S-GW-030317	EPA 8260B	DJB	83	PASI-M
10380881003	MW10S-GW-030317	EPA 8260B	DJB	83	PASI-M
10380881004	W20-GW-030317	EPA 8260B	DJB	83	PASI-M
10380881005	MW4D-GW-030317	EPA 8260B	DJB	83	PASI-M

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380881001	MW3D-GW-030317					
EPA 8260B	Chloromethane	2.4J	ug/L	4.0	03/04/17 21:29	
10380881002	MW8S-GW-030317					
EPA 8260B	Carbon disulfide	1.1	ug/L	1.0	03/05/17 00:50	
EPA 8260B	Carbon tetrachloride	231	ug/L	1.0	03/06/17 13:44	
EPA 8260B	Chloroform	57.2	ug/L	1.0	03/05/17 00:50	
10380881003	MW10S-GW-030317					
EPA 8260B	Carbon disulfide	0.21J	ug/L	1.0	03/04/17 21:52	
EPA 8260B	Carbon tetrachloride	31.6	ug/L	0.50	03/04/17 21:52	
EPA 8260B	Chloroform	1.5	ug/L	1.0	03/04/17 21:52	
10380881005	MW4D-GW-030317					
EPA 8260B	Carbon tetrachloride	4.7	ug/L	0.50	03/04/17 23:21	
EPA 8260B	Chloroform	0.97J	ug/L	1.0	03/04/17 23:21	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 07, 2017

General Information:

5 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462570

A matrix spike/matrix spike duplicate was not performed due to insufficient sample volume.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: MW3D-GW-030317 Lab ID: 10380881001 Collected: 03/03/17 08:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 21:29	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 21:29	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:29	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 21:29	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 21:29	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:29	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 21:29	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 21:29	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 21:29	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 21:29	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 21:29	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 21:29	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 21:29	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 21:29	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 21:29	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 21:29	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 21:29	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 21:29	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 21:29	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 21:29	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 21:29	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 21:29	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 21:29	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 21:29	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 21:29	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 21:29	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 21:29	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 21:29	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 21:29	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 21:29	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 21:29	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 21:29	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 21:29	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 21:29	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 21:29	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 21:29	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 21:29	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 21:29	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 21:29	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 21:29	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 21:29	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 21:29	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 21:29	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 21:29	67-66-3	
Chloromethane	2.4J	ug/L	4.0	0.080	1		03/04/17 21:29	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 21:29	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: MW3D-GW-030317 **Lab ID: 10380881001** Collected: 03/03/17 08:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 21:29	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 21:29	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 21:29	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 21:29	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 21:29	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 21:29	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 21:29	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 21:29	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 21:29	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 21:29	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 21:29	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 21:29	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 21:29	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 21:29	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 21:29	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 21:29	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:29	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 21:29	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 21:29	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 21:29	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 21:29	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 21:29	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 21:29	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 21:29	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 21:29	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 21:29	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 21:29	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 21:29	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 21:29	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 21:29	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 21:29	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 21:29	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 21:29	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 21:29	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/04/17 21:29	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/04/17 21:29	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 21:29	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: **MW8S-GW-030317** Lab ID: **10380881002** Collected: 03/03/17 09:25 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/05/17 00:50	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/05/17 00:50	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:50	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/05/17 00:50	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/05/17 00:50	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:50	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/05/17 00:50	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/05/17 00:50	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/05/17 00:50	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/05/17 00:50	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/05/17 00:50	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/05/17 00:50	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/05/17 00:50	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/05/17 00:50	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/05/17 00:50	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/05/17 00:50	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/05/17 00:50	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/05/17 00:50	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/05/17 00:50	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/05/17 00:50	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/05/17 00:50	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/05/17 00:50	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/05/17 00:50	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/05/17 00:50	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/05/17 00:50	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/05/17 00:50	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/05/17 00:50	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/05/17 00:50	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/05/17 00:50	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/05/17 00:50	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/05/17 00:50	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/05/17 00:50	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/05/17 00:50	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/05/17 00:50	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/05/17 00:50	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/05/17 00:50	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/05/17 00:50	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/05/17 00:50	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/05/17 00:50	74-83-9	
Carbon disulfide	1.1	ug/L	1.0	0.20	1		03/05/17 00:50	75-15-0	
Carbon tetrachloride	231	ug/L	1.0	0.16	2		03/06/17 13:44	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/05/17 00:50	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/05/17 00:50	75-00-3	
Chloroform	57.2	ug/L	1.0	0.21	1		03/05/17 00:50	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/05/17 00:50	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/05/17 00:50	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: MW8S-GW-030317 **Lab ID: 10380881002** Collected: 03/03/17 09:25 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/05/17 00:50	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/05/17 00:50	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/05/17 00:50	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/05/17 00:50	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/05/17 00:50	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/05/17 00:50	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/05/17 00:50	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/05/17 00:50	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/05/17 00:50	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/05/17 00:50	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/05/17 00:50	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/05/17 00:50	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/05/17 00:50	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/05/17 00:50	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/05/17 00:50	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/05/17 00:50	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/05/17 00:50	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/05/17 00:50	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/05/17 00:50	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/05/17 00:50	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/05/17 00:50	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/05/17 00:50	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/05/17 00:50	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/05/17 00:50	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/05/17 00:50	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/05/17 00:50	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/05/17 00:50	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/05/17 00:50	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/05/17 00:50	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/05/17 00:50	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/05/17 00:50	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/05/17 00:50	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/05/17 00:50	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/05/17 00:50	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		03/05/17 00:50	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/05/17 00:50	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/05/17 00:50	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: **MW10S-GW-030317** Lab ID: **10380881003** Collected: 03/03/17 10:10 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 21:52	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 21:52	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:52	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 21:52	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 21:52	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:52	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 21:52	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 21:52	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 21:52	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 21:52	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 21:52	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 21:52	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 21:52	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 21:52	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 21:52	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 21:52	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 21:52	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 21:52	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 21:52	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 21:52	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 21:52	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 21:52	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 21:52	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 21:52	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 21:52	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 21:52	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 21:52	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 21:52	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 21:52	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 21:52	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 21:52	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 21:52	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 21:52	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 21:52	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 21:52	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 21:52	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 21:52	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 21:52	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 21:52	74-83-9	
Carbon disulfide	0.21J	ug/L	1.0	0.20	1		03/04/17 21:52	75-15-0	
Carbon tetrachloride	31.6	ug/L	0.50	0.079	1		03/04/17 21:52	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 21:52	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 21:52	75-00-3	
Chloroform	1.5	ug/L	1.0	0.21	1		03/04/17 21:52	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 21:52	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 21:52	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: MW10S-GW-030317 **Lab ID: 10380881003** Collected: 03/03/17 10:10 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 21:52	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 21:52	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 21:52	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 21:52	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 21:52	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 21:52	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 21:52	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 21:52	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 21:52	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 21:52	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 21:52	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 21:52	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 21:52	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 21:52	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 21:52	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 21:52	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 21:52	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 21:52	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 21:52	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 21:52	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 21:52	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 21:52	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 21:52	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 21:52	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 21:52	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 21:52	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 21:52	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 21:52	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 21:52	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 21:52	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 21:52	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 21:52	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 21:52	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 21:52	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/04/17 21:52	17060-07-0	
Toluene-d8 (S)	105	%	75-125		1		03/04/17 21:52	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		03/04/17 21:52	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: **W20-GW-030317** Lab ID: **10380881004** Collected: 03/03/17 12:35 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 22:14	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 22:14	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 22:14	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 22:14	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 22:14	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 22:14	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 22:14	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 22:14	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 22:14	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 22:14	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 22:14	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 22:14	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 22:14	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 22:14	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 22:14	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 22:14	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 22:14	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 22:14	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 22:14	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 22:14	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 22:14	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 22:14	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 22:14	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 22:14	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 22:14	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 22:14	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 22:14	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 22:14	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 22:14	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 22:14	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 22:14	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 22:14	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 22:14	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 22:14	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 22:14	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 22:14	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 22:14	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 22:14	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 22:14	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 22:14	75-15-0	
Carbon tetrachloride	<0.079	ug/L	0.50	0.079	1		03/04/17 22:14	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 22:14	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 22:14	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		03/04/17 22:14	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 22:14	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 22:14	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: **W20-GW-030317** Lab ID: **10380881004** Collected: 03/03/17 12:35 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 22:14	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 22:14	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 22:14	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 22:14	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 22:14	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 22:14	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 22:14	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 22:14	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 22:14	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 22:14	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 22:14	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 22:14	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 22:14	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 22:14	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 22:14	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 22:14	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 22:14	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 22:14	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 22:14	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 22:14	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 22:14	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 22:14	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 22:14	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 22:14	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 22:14	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 22:14	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 22:14	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 22:14	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 22:14	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 22:14	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 22:14	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 22:14	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 22:14	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 22:14	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		03/04/17 22:14	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		03/04/17 22:14	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 22:14	460-00-4	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: MW4D-GW-030317 Lab ID: 10380881005 Collected: 03/03/17 14:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 23:21	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/04/17 23:21	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 23:21	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/04/17 23:21	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/04/17 23:21	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/04/17 23:21	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/04/17 23:21	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/04/17 23:21	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	0.50	0.17	1		03/04/17 23:21	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/04/17 23:21	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	0.50	0.14	1		03/04/17 23:21	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	4.0	0.068	1		03/04/17 23:21	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/04/17 23:21	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/04/17 23:21	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/04/17 23:21	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/04/17 23:21	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/04/17 23:21	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/04/17 23:21	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/04/17 23:21	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/04/17 23:21	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/04/17 23:21	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/04/17 23:21	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/04/17 23:21	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/04/17 23:21	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/04/17 23:21	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/04/17 23:21	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/04/17 23:21	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/04/17 23:21	591-78-6	
4-Chlorotoluene	<0.048	ug/L	0.50	0.048	1		03/04/17 23:21	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/04/17 23:21	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/04/17 23:21	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/04/17 23:21	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/04/17 23:21	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/04/17 23:21	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/04/17 23:21	108-86-1	
Bromochloromethane	<0.082	ug/L	1.0	0.082	1		03/04/17 23:21	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/04/17 23:21	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/04/17 23:21	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/04/17 23:21	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/04/17 23:21	75-15-0	
Carbon tetrachloride	4.7	ug/L	0.50	0.079	1		03/04/17 23:21	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/04/17 23:21	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/04/17 23:21	75-00-3	
Chloroform	0.97J	ug/L	1.0	0.21	1		03/04/17 23:21	67-66-3	
Chloromethane	<0.080	ug/L	4.0	0.080	1		03/04/17 23:21	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/04/17 23:21	124-48-1	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Sample: MW4D-GW-030317 Lab ID: 10380881005 Collected: 03/03/17 14:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/04/17 23:21	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/04/17 23:21	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/04/17 23:21	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/04/17 23:21	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/04/17 23:21	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/04/17 23:21	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/04/17 23:21	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	4.0	0.064	1		03/04/17 23:21	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/04/17 23:21	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/04/17 23:21	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/04/17 23:21	91-20-3	
Styrene	<0.056	ug/L	4.0	0.056	1		03/04/17 23:21	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/04/17 23:21	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/04/17 23:21	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/04/17 23:21	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/04/17 23:21	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/04/17 23:21	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/04/17 23:21	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/04/17 23:21	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/04/17 23:21	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/04/17 23:21	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/04/17 23:21	10061-01-5	
m&p-Xylene	<0.11	ug/L	1.0	0.11	1		03/04/17 23:21	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/04/17 23:21	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/04/17 23:21	103-65-1	
o-Xylene	<0.044	ug/L	0.50	0.044	1		03/04/17 23:21	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	4.0	0.064	1		03/04/17 23:21	99-87-6	
sec-Butylbenzene	<0.094	ug/L	4.0	0.094	1		03/04/17 23:21	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/04/17 23:21	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/04/17 23:21	75-65-0	
tert-Butylbenzene	<0.051	ug/L	4.0	0.051	1		03/04/17 23:21	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/04/17 23:21	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	0.50	0.044	1		03/04/17 23:21	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/04/17 23:21	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	105	%	75-125		1		03/04/17 23:21	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		03/04/17 23:21	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		03/04/17 23:21	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380881

QC Batch: 462570 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10380881001, 10380881002, 10380881003, 10380881004, 10380881005

METHOD BLANK: 2529515 Matrix: Water
Associated Lab Samples: 10380881001, 10380881002, 10380881003, 10380881004, 10380881005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/04/17 18:53	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/04/17 18:53	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/04/17 18:53	
1,2,3-Trichlorobenzene	ug/L	<0.17	0.50	0.17	03/04/17 18:53	
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/04/17 18:53	
1,2,4-Trichlorobenzene	ug/L	<0.14	0.50	0.14	03/04/17 18:53	
1,2,4-Trimethylbenzene	ug/L	<0.068	4.0	0.068	03/04/17 18:53	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/04/17 18:53	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/04/17 18:53	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/04/17 18:53	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/04/17 18:53	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/04/17 18:53	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/04/17 18:53	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/04/17 18:53	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/04/17 18:53	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/04/17 18:53	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/04/17 18:53	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/04/17 18:53	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/04/17 18:53	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/04/17 18:53	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/04/17 18:53	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/04/17 18:53	
4-Chlorotoluene	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/04/17 18:53	
Acetone	ug/L	<0.64	20.0	0.64	03/04/17 18:53	
Acrolein	ug/L	<2.1	10.0	2.1	03/04/17 18:53	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/04/17 18:53	
Benzene	ug/L	<0.042	0.50	0.042	03/04/17 18:53	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/04/17 18:53	
Bromochloromethane	ug/L	<0.082	1.0	0.082	03/04/17 18:53	
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/04/17 18:53	
Bromoform	ug/L	<0.11	4.0	0.11	03/04/17 18:53	
Bromomethane	ug/L	<0.20	4.0	0.20	03/04/17 18:53	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/04/17 18:53	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/04/17 18:53	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380881

METHOD BLANK: 2529515

Matrix: Water

Associated Lab Samples: 10380881001, 10380881002, 10380881003, 10380881004, 10380881005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/04/17 18:53	
Chloroethane	ug/L	<0.12	1.0	0.12	03/04/17 18:53	
Chloroform	ug/L	<0.21	1.0	0.21	03/04/17 18:53	
Chloromethane	ug/L	<0.080	4.0	0.080	03/04/17 18:53	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/04/17 18:53	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/04/17 18:53	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/04/17 18:53	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/04/17 18:53	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/04/17 18:53	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/04/17 18:53	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/04/17 18:53	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/04/17 18:53	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/04/17 18:53	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/04/17 18:53	
Isopropylbenzene (Cumene)	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
m&p-Xylene	ug/L	<0.11	1.0	0.11	03/04/17 18:53	
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/04/17 18:53	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/04/17 18:53	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/04/17 18:53	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/04/17 18:53	
Naphthalene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
o-Xylene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
p-Isopropyltoluene	ug/L	<0.064	4.0	0.064	03/04/17 18:53	MN
sec-Butylbenzene	ug/L	<0.094	4.0	0.094	03/04/17 18:53	MN
Styrene	ug/L	<0.056	4.0	0.056	03/04/17 18:53	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/04/17 18:53	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/04/17 18:53	
tert-Butylbenzene	ug/L	<0.051	4.0	0.051	03/04/17 18:53	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/04/17 18:53	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/04/17 18:53	
Toluene	ug/L	<0.059	0.50	0.059	03/04/17 18:53	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/04/17 18:53	
trans-1,3-Dichloropropene	ug/L	<0.044	0.50	0.044	03/04/17 18:53	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/04/17 18:53	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/04/17 18:53	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/04/17 18:53	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/04/17 18:53	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/04/17 18:53	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/04/17 18:53	
1,2-Dichloroethane-d4 (S)	%	100	75-125		03/04/17 18:53	
4-Bromofluorobenzene (S)	%	103	75-125		03/04/17 18:53	
Toluene-d8 (S)	%	104	75-125		03/04/17 18:53	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	18.0	99	90	75-125	10	30		
1,1,1-Trichloroethane	ug/L	20	20.0	18.5	100	92	74-125	8	30		
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	19.6	105	98	67-131	7	30		
1,1,2-Trichloroethane	ug/L	20	21.1	19.5	105	97	75-125	8	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	19.5	17.8	98	89	75-125	9	30		
1,1-Dichloroethane	ug/L	20	22.1	20.9	111	105	74-125	6	30		
1,1-Dichloroethene	ug/L	20	19.2	18.2	96	91	74-125	6	30		
1,1-Dichloropropene	ug/L	20	18.6	17.9	93	90	74-125	4	30		
1,2,3-Trichlorobenzene	ug/L	20	17.9	17.3	89	86	63-131	4	30		
1,2,3-Trichloropropane	ug/L	20	20.9	19.1	104	95	73-125	9	30		
1,2,4-Trichlorobenzene	ug/L	20	15.9	15.3	79	77	66-126	4	30		
1,2,4-Trimethylbenzene	ug/L	20	17.8	16.4	89	82	74-129	8	30		
1,2-Dibromo-3-chloropropane	ug/L	50	47.0	41.6	94	83	54-129	12	30		
1,2-Dibromoethane (EDB)	ug/L	20	21.1	19.8	106	99	75-125	7	30		
1,2-Dichlorobenzene	ug/L	20	18.6	17.4	93	87	75-125	7	30		
1,2-Dichloroethane	ug/L	20	19.1	18.1	95	91	75-125	5	30		
1,2-Dichloroethene (Total)	ug/L	40	40.5	38.7	101	97	75-125	5	30		
1,2-Dichloropropane	ug/L	20	20.7	19.0	103	95	75-125	8	30		
1,3,5-Trimethylbenzene	ug/L	20	18.3	17.0	92	85	73-127	8	30		
1,3-Dichlorobenzene	ug/L	20	18.7	17.3	94	87	75-125	8	30		
1,3-Dichloropropane	ug/L	20	20.3	19.2	102	96	69-125	5	30		
1,4-Dichlorobenzene	ug/L	20	18.5	17.2	92	86	75-125	7	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	417	409	104	102	70-130	2	30		
2,2,4-Trimethylpentane	ug/L	20	20.0	19.2	100	96	67-138	4	30		
2,2-Dichloropropane	ug/L	20	20.2	18.9	101	94	69-125	7	30		
2-Butanone (MEK)	ug/L	100	104	97.8	104	98	48-145	6	30		
2-Chlorotoluene	ug/L	20	20.3	18.6	102	93	74-125	9	30		
2-Hexanone	ug/L	100	115	104	115	104	63-135	10	30		
4-Chlorotoluene	ug/L	20	19.7	18.3	98	91	73-125	7	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	118	107	118	107	53-138	10	30		
Acetone	ug/L	100	108	103	108	103	70-142	4	30		
Acrolein	ug/L	200	234	217	117	109	44-150	7	30		
Acrylonitrile	ug/L	200	230	216	115	108	68-125	6	30		
Benzene	ug/L	20	20.6	19.1	103	96	65-125	8	30		
Bromobenzene	ug/L	20	19.1	17.6	96	88	75-125	8	30		
Bromochloromethane	ug/L	20	20.3	18.9	101	95	75-125	7	30		
Bromodichloromethane	ug/L	20	20.5	19.1	103	96	73-125	7	30		
Bromoform	ug/L	20	17.5	16.5	87	83	69-125	6	30		
Bromomethane	ug/L	20	16.7	16.7	84	83	40-136	0	30		
Carbon disulfide	ug/L	20	18.6	17.2	93	86	36-150	8	30		
Carbon tetrachloride	ug/L	20	19.2	17.9	96	90	70-125	7	30		
Chlorobenzene	ug/L	20	19.4	17.9	97	89	75-125	8	30		
Chloroethane	ug/L	20	23.2	21.1	116	105	67-141	10	30		
Chloroform	ug/L	20	19.2	18.1	96	90	75-125	6	30		
Chloromethane	ug/L	20	22.6	20.6	113	103	50-150	9	30		
cis-1,2-Dichloroethene	ug/L	20	19.7	19.0	98	95	75-125	4	30		
cis-1,3-Dichloropropene	ug/L	20	21.0	19.3	105	97	75-125	8	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

LABORATORY CONTROL SAMPLE & LCSD: 2529516		2529869								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Dibromochloromethane	ug/L	20	20.2	19.0	101	95	75-125	6	30	
Dibromomethane	ug/L	20	19.4	17.8	97	89	75-129	8	30	
Dichlorodifluoromethane	ug/L	20	17.4	15.9	87	80	59-135	9	30	
Dichlorofluoromethane	ug/L	20	20.3	19.0	102	95	74-130	7	30	
Diisopropyl ether	ug/L	20	22.4	21.9	112	110	71-125	2	30	
Ethyl-tert-butyl ether	ug/L	20	21.7	21.2	108	106	70-130	2	30	
Ethylbenzene	ug/L	20	18.4	16.9	92	84	75-125	9	30	
Hexachloro-1,3-butadiene	ug/L	20	17.0	16.6	85	83	72-126	3	30	
Isopropylbenzene (Cumene)	ug/L	20	16.2	14.9	81	74	71-136	9	30	
m&p-Xylene	ug/L	40	37.3	34.3	93	86	75-125	8	30	
Methyl-tert-butyl ether	ug/L	20	20.0	19.5	100	98	73-127	3	30	
Methylene Chloride	ug/L	20	20.6	19.5	103	97	68-128	6	30	
n-Butylbenzene	ug/L	20	16.8	15.6	84	78	70-126	7	30	
n-Propylbenzene	ug/L	20	18.3	16.7	91	84	67-131	9	30	
Naphthalene	ug/L	20	13.9	13.4	70	67	52-134	4	30	
o-Xylene	ug/L	20	17.2	16.2	86	81	75-125	6	30	
p-Isopropyltoluene	ug/L	20	16.5	15.0	82	75	74-125	9	30	
sec-Butylbenzene	ug/L	20	16.8	15.7	84	78	69-134	7	30	
Styrene	ug/L	20	19.0	17.2	95	86	75-125	10	30	
tert-Amylmethyl ether	ug/L	20	21.3	20.3	106	101	70-130	5	30	
tert-Butyl Alcohol	ug/L	200	225	221	113	110	66-128	2	30	
tert-Butylbenzene	ug/L	20	15.8	14.5	79	72	71-128	9	30	
Tetrachloroethene	ug/L	20	17.1	15.7	85	78	74-125	9	30	
Tetrahydrofuran	ug/L	200	199	191	100	95	64-142	4	30	
Toluene	ug/L	20	18.7	17.1	94	85	75-125	9	30	
trans-1,2-Dichloroethene	ug/L	20	20.8	19.7	104	99	73-125	5	30	
trans-1,3-Dichloropropene	ug/L	20	20.9	19.5	104	98	75-125	7	30	
trans-1,4-Dichloro-2-butene	ug/L	50	53.0	49.8	106	100	54-133	6	30	
Trichloroethene	ug/L	20	19.5	17.7	97	89	75-125	9	30	
Trichlorofluoromethane	ug/L	20	18.3	16.9	91	85	75-126	8	30	
Vinyl acetate	ug/L	20	25.0	24.3	125	121	67-126	3	30	
Vinyl chloride	ug/L	20	20.9	19.3	105	97	72-125	8	30	
Xylene (Total)	ug/L	60	54.5	50.6	91	84	75-125	7	30	
1,2-Dichloroethane-d4 (S)	%				99	101	75-125			
4-Bromofluorobenzene (S)	%				101	102	75-125			
Toluene-d8 (S)	%				100	100	75-125			

MATRIX SPIKE SAMPLE: 2529870		10380873001						
Parameter	Units	Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20.5	102	75-127		
1,1,1-Trichloroethane	ug/L	<0.057	20	22.1	110	66-142		
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20.9	105	70-131		
1,1,2-Trichloroethane	ug/L	<0.064	20	21.0	105	75-128		
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	24.0	120	54-150		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
1,1-Dichloroethane	ug/L	<0.055	20	23.7	119	58-147	
1,1-Dichloroethene	ug/L	<0.069	20	22.2	111	49-150	
1,1-Dichloropropene	ug/L	<0.082	20	22.0	110	58-147	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20.5	103	57-139	
1,2,3-Trichloropropane	ug/L	<0.19	20	20.2	101	71-127	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	18.0	90	55-136	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	19.9	100	67-138	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	45.3	91	63-136	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	21.4	107	74-125	
1,2-Dichlorobenzene	ug/L	<0.078	20	20.1	101	75-125	
1,2-Dichloroethane	ug/L	<0.072	20	19.9	99	63-133	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	44.3	111	55-146	
1,2-Dichloropropane	ug/L	<0.066	20	21.4	107	63-138	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20.8	104	69-136	
1,3-Dichlorobenzene	ug/L	<0.085	20	20.0	100	75-125	
1,3-Dichloropropane	ug/L	<0.059	20	20.5	103	65-135	
1,4-Dichlorobenzene	ug/L	<0.081	20	19.7	99	70-126	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	385	96	54-145	
2,2,4-Trimethylpentane	ug/L	<0.087	20	26.4	132	30-150	
2,2-Dichloropropane	ug/L	<0.096	20	22.8	114	39-148	
2-Butanone (MEK)	ug/L	<1.1	100	103	103	50-144	
2-Chlorotoluene	ug/L	<0.084	20	22.5	113	71-135	
2-Hexanone	ug/L	<0.19	100	114	114	43-150	
4-Chlorotoluene	ug/L	<0.048	20	21.8	109	71-131	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	116	116	60-147	
Acetone	ug/L	<0.64	100	105	105	59-150	
Acrolein	ug/L	<2.1	200	297	149	30-150	
Acrylonitrile	ug/L	<0.49	200	227	114	41-148	
Benzene	ug/L	<0.042	20	22.1	110	61-138	
Bromobenzene	ug/L	<0.087	20	20.1	100	74-130	
Bromochloromethane	ug/L	<0.082	20	21.2	106	65-137	
Bromodichloromethane	ug/L	<0.068	20	20.8	104	66-136	
Bromoform	ug/L	<0.11	20	17.4	87	71-125	
Bromomethane	ug/L	<0.20	20	18.8	94	30-150	
Carbon disulfide	ug/L	<0.20	20	20.7	103	30-150	
Carbon tetrachloride	ug/L	<0.079	20	22.0	110	68-140	
Chlorobenzene	ug/L	<0.066	20	20.5	103	75-132	
Chloroethane	ug/L	<0.12	20	22.7	114	55-150	
Chloroform	ug/L	<0.21	20	20.4	102	64-139	
Chloromethane	ug/L	<0.080	20	21.8	109	73-150	
cis-1,2-Dichloroethene	ug/L	<0.12	20	21.7	108	62-138	
cis-1,3-Dichloropropene	ug/L	<0.069	20	19.1	95	70-125	
Dibromochloromethane	ug/L	<0.048	20	20.5	103	74-125	
Dibromomethane	ug/L	<0.14	20	18.9	94	66-138	
Dichlorodifluoromethane	ug/L	<0.075	20	20.5	103	53-150	
Dichlorofluoromethane	ug/L	<0.054	20	19.9	100	58-150	
Diisopropyl ether	ug/L	<0.050	20	24.1	121	50-139	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

MATRIX SPIKE SAMPLE: 2529870		10380873001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Ethyl-tert-butyl ether	ug/L	<0.062	20	23.4	117	30-140	
Ethylbenzene	ug/L	<0.075	20	20.1	101	66-141	
Hexachloro-1,3-butadiene	ug/L	<0.13	20	22.1	110	63-139	
Isopropylbenzene (Cumene)	ug/L	<0.064	20	18.5	93	65-146	
m&p-Xylene	ug/L	<0.11	40	41.5	104	72-142	
Methyl-tert-butyl ether	ug/L	<0.047	20	20.8	104	63-134	
Methylene Chloride	ug/L	<0.097	20	21.4	107	49-143	
n-Butylbenzene	ug/L	<0.16	20	20.8	104	67-134	
n-Propylbenzene	ug/L	<0.049	20	21.3	106	62-142	
Naphthalene	ug/L	<0.064	20	15.3	77	41-150	
o-Xylene	ug/L	<0.044	20	19.3	97	66-138	
p-Isopropyltoluene	ug/L	<0.064	20	19.6	98	64-137	
sec-Butylbenzene	ug/L	<0.094	20	20.1	101	65-142	
Styrene	ug/L	<0.056	20	20.8	104	61-142	
tert-Amylmethyl ether	ug/L	<0.073	20	22.0	110	65-125	
tert-Butyl Alcohol	ug/L	<0.89	200	219	110	59-138	
tert-Butylbenzene	ug/L	<0.051	20	18.8	94	69-135	
Tetrachloroethene	ug/L	<0.13	20	19.9	100	62-142	
Tetrahydrofuran	ug/L	<1.5	200	213	106	55-150	
Toluene	ug/L	<0.059	20	20.0	100	66-132	
trans-1,2-Dichloroethene	ug/L	<0.15	20	22.6	113	48-150	
trans-1,3-Dichloropropene	ug/L	<0.044	20	21.4	107	65-130	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	52.6	105	31-150	
Trichloroethene	ug/L	<0.044	20	21.2	106	64-142	
Trichlorofluoromethane	ug/L	<0.055	20	20.7	103	63-150	
Vinyl acetate	ug/L	<0.12	20	25.9	130	30-150	
Vinyl chloride	ug/L	<0.098	20	22.6	113	58-150	
Xylene (Total)	ug/L	<0.15	60	60.8	101	70-140	
1,2-Dichloroethane-d4 (S)	%				100	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				98	75-125	

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002	Dup	RPD	Max	Qualifiers
		Result	Result		RPD	
1,1,1,2-Tetrachloroethane	ug/L	<0.064	<0.064		30	
1,1,1-Trichloroethane	ug/L	<0.057	<0.057		30	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	<0.055		30	
1,1,2-Trichloroethane	ug/L	<0.064	<0.064		30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	<0.13		30	
1,1-Dichloroethane	ug/L	<0.055	<0.055		30	
1,1-Dichloroethene	ug/L	<0.069	<0.069		30	
1,1-Dichloropropene	ug/L	<0.082	<0.082		30	
1,2,3-Trichlorobenzene	ug/L	<0.17	<0.17		30	
1,2,3-Trichloropropane	ug/L	<0.19	<0.19		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.14	<0.14		30	
1,2,4-Trimethylbenzene	ug/L	<0.068	<0.068		30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	<0.60		30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	<0.092		30	
1,2-Dichlorobenzene	ug/L	<0.078	<0.078		30	
1,2-Dichloroethane	ug/L	<0.072	<0.072		30	
1,2-Dichloroethene (Total)	ug/L	<0.16	<0.16		30	
1,2-Dichloropropane	ug/L	<0.066	<0.066		30	
1,3,5-Trimethylbenzene	ug/L	<0.042	<0.042		30	
1,3-Dichlorobenzene	ug/L	<0.085	<0.085		30	
1,3-Dichloropropane	ug/L	<0.059	<0.059		30	
1,4-Dichlorobenzene	ug/L	<0.081	<0.081		30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	<4.8		30	
2,2,4-Trimethylpentane	ug/L	<0.087	<0.087		30	
2,2-Dichloropropane	ug/L	<0.096	<0.096		30	
2-Butanone (MEK)	ug/L	<1.1	<1.1		30	
2-Chlorotoluene	ug/L	<0.084	<0.084		30	
2-Hexanone	ug/L	<0.19	<0.19		30	
4-Chlorotoluene	ug/L	<0.048	<0.048		30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	<0.80		30	
Acetone	ug/L	<0.64	<0.64		30	
Acrolein	ug/L	<2.1	<2.1		30	
Acrylonitrile	ug/L	<0.49	<0.49		30	
Benzene	ug/L	<0.042	<0.042		30	
Bromobenzene	ug/L	<0.087	<0.087		30	
Bromochloromethane	ug/L	<0.082	<0.082		30	
Bromodichloromethane	ug/L	<0.068	<0.068		30	
Bromoform	ug/L	<0.11	<0.11		30	
Bromomethane	ug/L	<0.20	<0.20		30	
Carbon disulfide	ug/L	0.20J	<0.20		30	
Carbon tetrachloride	ug/L	<0.079	<0.079		30	
Chlorobenzene	ug/L	<0.066	<0.066		30	
Chloroethane	ug/L	<0.12	<0.12		30	
Chloroform	ug/L	<0.21	<0.21		30	
Chloromethane	ug/L	<0.080	<0.080		30	
cis-1,2-Dichloroethene	ug/L	<0.12	<0.12		30	
cis-1,3-Dichloropropene	ug/L	<0.069	<0.069		30	
Dibromochloromethane	ug/L	<0.048	<0.048		30	
Dibromomethane	ug/L	<0.14	<0.14		30	
Dichlorodifluoromethane	ug/L	<0.075	<0.075		30	
Dichlorofluoromethane	ug/L	<0.054	<0.054		30	
Diisopropyl ether	ug/L	<0.050	<0.050		30	
Ethyl-tert-butyl ether	ug/L	<0.062	<0.062		30	
Ethylbenzene	ug/L	<0.075	<0.075		30	
Hexachloro-1,3-butadiene	ug/L	<0.13	<0.13		30	
Isopropylbenzene (Cumene)	ug/L	<0.064	<0.064		30	
m&p-Xylene	ug/L	<0.11	<0.11		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

SAMPLE DUPLICATE: 2529871

Parameter	Units	10380873002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methyl-tert-butyl ether	ug/L	<0.047	<0.047		30	
Methylene Chloride	ug/L	<0.097	<0.097		30	
n-Butylbenzene	ug/L	<0.16	<0.16		30	
n-Propylbenzene	ug/L	<0.049	<0.049		30	
Naphthalene	ug/L	<0.064	<0.064		30	
o-Xylene	ug/L	<0.044	<0.044		30	
p-Isopropyltoluene	ug/L	<0.064	<0.064		30	
sec-Butylbenzene	ug/L	<0.094	<0.094		30	
Styrene	ug/L	<0.056	<0.056		30	
tert-Amylmethyl ether	ug/L	<0.073	<0.073		30	
tert-Butyl Alcohol	ug/L	<0.89	<0.89		30	
tert-Butylbenzene	ug/L	<0.051	<0.051		30	
Tetrachloroethene	ug/L	<0.13	<0.13		30	
Tetrahydrofuran	ug/L	<1.5	<1.5		30	
Toluene	ug/L	<0.059	<0.059		30	
trans-1,2-Dichloroethene	ug/L	<0.15	<0.15		30	
trans-1,3-Dichloropropene	ug/L	<0.044	<0.044		30	
trans-1,4-Dichloro-2-butene	ug/L	<0.45	<0.45		30	
Trichloroethene	ug/L	<0.044	<0.044		30	
Trichlorofluoromethane	ug/L	<0.055	<0.055		30	
Vinyl acetate	ug/L	<0.12	<0.12		30	
Vinyl chloride	ug/L	<0.098	<0.098		30	
Xylene (Total)	ug/L	<0.15	<0.15		30	
1,2-Dichloroethane-d4 (S)	%	106	104	2		
4-Bromofluorobenzene (S)	%	103	101	2		
Toluene-d8 (S)	%	101	103	2		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

BATCH QUALIFIERS

Batch: 462570

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380881

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380881001	MW3D-GW-030317	EPA 8260B	462570		
10380881002	MW8S-GW-030317	EPA 8260B	462570		
10380881003	MW10S-GW-030317	EPA 8260B	462570		
10380881004	W20-GW-030317	EPA 8260B	462570		
10380881005	MW4D-GW-030317	EPA 8260B	462570		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill

Project #:

WO#: **10380881**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: 7021 4575 3805

Optional: Proj. Due Date: _____ Proj. Name: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer 151401163 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Used: 151401164

Cooler Temp Read (°C): 1.2 Cooler Temp Corrected (°C): 1.2 Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: 10.0 Date and Initials of Person Examining Contents: KAC 3-4-17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. <u>MS/MSD</u>
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No -Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	12. <u>No trip blank arrived</u>
All containers needing acid/base preservation have been checked? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A (HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: <input checked="" type="checkbox"/> Coliform, TDC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	Sample #
Per method, VOA pH is checked after analysis <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:30</u>	Temp: <u>1.2</u>	Corrected Temp: <u>1.2</u>
Time: <u>11:50</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: _____

JENNI GROSS

Date: 03/06/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 17, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

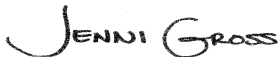
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: UST-078
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: MN00064
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Michigan Certification #: 9909

Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia WW Certification #: 382
Wisconsin Certification #: 999407970
Wyoming via EPA Region 8 Certification #: 8TMS-L

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
California Certification #2973
Alaska Certification UST-107
Alaska Certification UST-107
California Certification #2973
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842015-1
Oklahoma Department of Environmental Quality
California Certification #2973

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch:
11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC):
E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP):
02006

Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC):
T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-
00119
Commonwealth of Virginia (TNI): 480246

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10380882001	MW3D-GW-030317	Water	03/03/17 08:20	03/04/17 09:20
10380882002	MW8S-GW-030317	Water	03/03/17 09:25	03/04/17 09:20
10380882003	MW10S-GW-030317	Water	03/03/17 10:10	03/04/17 09:20
10380882004	W20-GW-030317	Water	03/03/17 12:35	03/04/17 09:20
10380882005	MW4D-GW-030317	Water	03/03/17 14:20	03/04/17 09:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10380882001	MW3D-GW-030317	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
10380882002	MW8S-GW-030317	SM 5310C	CRE	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
10380882003	MW10S-GW-030317	EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
10380882004	W20-GW-030317	SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
10380882005	MW4D-GW-030317	SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
		RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
SM 2320B	JFP	1	PASI-M		
SM 2540C	NAS	1	PASI-M		

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
10380882001	MW3D-GW-030317					
RSK 175	Methane	1.1J	ug/L	10.0	03/07/17 15:47	
6010C Met	Barium, Dissolved	42.3	ug/L	10.0	03/09/17 15:04	
6010C Met	Calcium, Dissolved	30600	ug/L	500	03/09/17 15:04	
6010C Met	Magnesium, Dissolved	9260	ug/L	500	03/09/17 15:04	
6010C Met	Manganese, Dissolved	21.4	ug/L	5.0	03/09/17 15:04	
6010C Met	Potassium, Dissolved	1130J	ug/L	2500	03/09/17 15:04	
6010C Met	Sodium, Dissolved	13500	ug/L	1000	03/09/17 15:04	
6010C Met	Vanadium, Dissolved	1.4J	ug/L	15.0	03/09/17 15:04	
6010C Met	Zinc, Dissolved	4.1J	ug/L	20.0	03/09/17 15:04	
SM 2320B	Alkalinity, Total as CaCO3	129	mg/L	5.0	03/14/17 11:44	
SM 2540C	Total Dissolved Solids	180	mg/L	10.0	03/08/17 14:50	
EPA 300.0	Chloride	1.4	mg/L	1.2	03/04/17 16:39	
EPA 300.0	Nitrate as N	0.15	mg/L	0.10	03/04/17 16:39	
EPA 300.0	Sulfate	3.8	mg/L	1.2	03/04/17 16:39	
SM 5310C	Total Organic Carbon	0.41J	mg/L	1.0	03/09/17 23:42	
10380882002	MW8S-GW-030317					
RSK 175	Methane	1.6J	ug/L	10.0	03/07/17 15:54	
6010C Met	Aluminum, Dissolved	28.4J	ug/L	200	03/09/17 15:08	
6010C Met	Barium, Dissolved	38.8	ug/L	10.0	03/09/17 15:08	
6010C Met	Cadmium, Dissolved	0.32J	ug/L	3.0	03/09/17 15:08	
6010C Met	Calcium, Dissolved	44200	ug/L	500	03/09/17 15:08	
6010C Met	Cobalt, Dissolved	1.5J	ug/L	10.0	03/09/17 15:08	
6010C Met	Magnesium, Dissolved	10700	ug/L	500	03/09/17 15:08	
6010C Met	Manganese, Dissolved	146	ug/L	5.0	03/09/17 15:08	
6010C Met	Potassium, Dissolved	418J	ug/L	2500	03/09/17 15:08	
6010C Met	Sodium, Dissolved	11500	ug/L	1000	03/09/17 15:08	
6010C Met	Vanadium, Dissolved	1.4J	ug/L	15.0	03/09/17 15:08	
6010C Met	Zinc, Dissolved	20.6	ug/L	20.0	03/09/17 15:08	
SM 2320B	Alkalinity, Total as CaCO3	124	mg/L	5.0	03/14/17 11:48	
SM 2540C	Total Dissolved Solids	255	mg/L	10.0	03/10/17 11:51	
EPA 300.0	Chloride	1.8	mg/L	1.2	03/04/17 16:54	
EPA 300.0	Nitrate as N	6.9	mg/L	0.10	03/04/17 16:54	
EPA 300.0	Sulfate	18.8	mg/L	1.2	03/04/17 16:54	
SM 5310C	Total Organic Carbon	1.3	mg/L	1.0	03/09/17 21:04	
10380882003	MW10S-GW-030317					
RSK 175	Methane	26.4	ug/L	10.0	03/07/17 16:01	
6010C Met	Aluminum, Dissolved	22.3J	ug/L	200	03/09/17 15:11	
6010C Met	Barium, Dissolved	65.7	ug/L	10.0	03/09/17 15:11	
6010C Met	Calcium, Dissolved	74200	ug/L	500	03/09/17 15:11	
6010C Met	Cobalt, Dissolved	1.9J	ug/L	10.0	03/09/17 15:11	
6010C Met	Magnesium, Dissolved	21100	ug/L	500	03/09/17 15:11	
6010C Met	Manganese, Dissolved	204	ug/L	5.0	03/09/17 15:11	
6010C Met	Potassium, Dissolved	738J	ug/L	2500	03/09/17 15:11	
6010C Met	Sodium, Dissolved	13200	ug/L	1000	03/09/17 15:11	
6010C Met	Vanadium, Dissolved	3.6J	ug/L	15.0	03/09/17 15:11	
6010C Met	Zinc, Dissolved	16.2J	ug/L	20.0	03/09/17 15:11	

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10380882003	MW10S-GW-030317					
SM 2320B	Alkalinity, Total as CaCO ₃	270	mg/L	5.0	03/14/17 12:18	
SM 2540C	Total Dissolved Solids	307	mg/L	10.0	03/10/17 11:51	
SM 4500-S-2 D	Sulfide, Total	0.0097J	mg/L	0.020	03/09/17 12:38	
EPA 300.0	Chloride	1.2J	mg/L	1.2	03/04/17 17:10	
EPA 300.0	Nitrate as N	0.29	mg/L	0.10	03/04/17 17:10	
EPA 300.0	Sulfate	2.6	mg/L	1.2	03/04/17 17:10	
SM 5310C	Total Organic Carbon	0.99J	mg/L	1.0	03/09/17 18:53	
10380882004	W20-GW-030317					
RSK 175	Methane	46.1	ug/L	10.0	03/07/17 16:08	
6010C Met	Barium, Dissolved	17.9	ug/L	10.0	03/09/17 15:15	
6010C Met	Calcium, Dissolved	40800	ug/L	500	03/09/17 15:15	
6010C Met	Iron, Dissolved	575	ug/L	50.0	03/09/17 15:15	
6010C Met	Magnesium, Dissolved	14100	ug/L	500	03/09/17 15:15	
6010C Met	Manganese, Dissolved	53.1	ug/L	5.0	03/09/17 15:15	
6010C Met	Potassium, Dissolved	2160J	ug/L	2500	03/09/17 15:15	
6010C Met	Sodium, Dissolved	10800	ug/L	1000	03/09/17 15:15	
6010C Met	Vanadium, Dissolved	6.7J	ug/L	15.0	03/09/17 15:15	
6010C Met	Zinc, Dissolved	3.3J	ug/L	20.0	03/09/17 15:15	
SM 2320B	Alkalinity, Total as CaCO ₃	148	mg/L	5.0	03/14/17 12:23	
SM 2540C	Total Dissolved Solids	236	mg/L	10.0	03/10/17 11:51	
SM 4500-S-2 D	Sulfide, Total	0.37	mg/L	0.020	03/09/17 12:38	
EPA 300.0	Chloride	2.3	mg/L	1.2	03/04/17 17:25	
EPA 300.0	Nitrate as N	4.4	mg/L	0.10	03/04/17 17:25	
EPA 300.0	Sulfate	13.8	mg/L	1.2	03/04/17 17:25	
SM 5310C	Total Organic Carbon	0.68J	mg/L	1.0	03/09/17 19:32	
10380882005	MW4D-GW-030317					
RSK 175	Methane	1.3J	ug/L	10.0	03/07/17 16:16	
6010C Met	Barium, Dissolved	50.4	ug/L	10.0	03/09/17 15:19	
6010C Met	Calcium, Dissolved	40500	ug/L	500	03/09/17 15:19	
6010C Met	Cobalt, Dissolved	0.83J	ug/L	10.0	03/09/17 15:19	
6010C Met	Iron, Dissolved	22.2J	ug/L	50.0	03/09/17 15:19	
6010C Met	Magnesium, Dissolved	14100	ug/L	500	03/09/17 15:19	
6010C Met	Manganese, Dissolved	32.1	ug/L	5.0	03/09/17 15:19	
6010C Met	Potassium, Dissolved	2740	ug/L	2500	03/09/17 15:19	
6010C Met	Sodium, Dissolved	17700	ug/L	1000	03/09/17 15:19	
6010C Met	Vanadium, Dissolved	10J	ug/L	15.0	03/09/17 15:19	
6010C Met	Zinc, Dissolved	11.8J	ug/L	20.0	03/09/17 15:19	
SM 2320B	Alkalinity, Total as CaCO ₃	159	mg/L	5.0	03/14/17 12:26	
SM 2540C	Total Dissolved Solids	253	mg/L	10.0	03/10/17 11:51	
EPA 300.0	Chloride	5.1	mg/L	1.2	03/04/17 17:40	M1
EPA 300.0	Nitrate as N	1.5	mg/L	0.10	03/04/17 17:40	M1
EPA 300.0	Sulfate	16.1	mg/L	1.2	03/04/17 17:40	M1
SM 5310C	Total Organic Carbon	1.2	mg/L	1.0	03/09/17 21:17	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 462563

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10380873006,10380882005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2529371)
 - Sulfate
- MS (Lab ID: 2529425)
 - Nitrate as N
 - Sulfate
- MSD (Lab ID: 2529372)
 - Sulfate
- MSD (Lab ID: 2529426)
 - Chloride
 - Nitrate as N
 - Sulfate

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 17, 2017

General Information:

5 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW3D-GW-030317 **Lab ID: 10380882001** Collected: 03/03/17 08:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 15:47	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 15:47	74-85-1	
Methane	1.1J	ug/L	10.0	0.49	1		03/07/17 15:47	74-82-8	
6010C MET ICP, Dissolved		Analytical Method: 6010C Met Preparation Method: EPA 3010							
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 15:04	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:04	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:04	7440-38-2	
Barium, Dissolved	42.3	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 15:04	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 15:04	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 15:04	7440-43-9	
Calcium, Dissolved	30600	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 15:04	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 15:04	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 15:04	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 15:04	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 15:04	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 15:04	7439-92-1	
Magnesium, Dissolved	9260	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 15:04	7439-95-4	
Manganese, Dissolved	21.4	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 15:04	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 15:04	7440-02-0	
Potassium, Dissolved	1130J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 15:04	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 15:04	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 15:04	7440-22-4	
Sodium, Dissolved	13500	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 15:04	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 15:04	7440-28-0	
Vanadium, Dissolved	1.4J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 15:04	7440-62-2	
Zinc, Dissolved	4.1J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 15:04	7440-66-6	
7470A Mercury, Dissolved		Analytical Method: EPA 7470A Preparation Method: EPA 7470A							
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:32	7439-97-6	
2320B Alkalinity		Analytical Method: SM 2320B							
Alkalinity, Total as CaCO ₃	129	mg/L	5.0	1.4	1		03/14/17 11:44		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	180	mg/L	10.0	5.0	1		03/08/17 14:50		
4500S2D Sulfide, Total		Analytical Method: SM 4500-S-2 D							
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:36	18496-25-8	
300.0 IC Anions		Analytical Method: EPA 300.0							
Chloride	1.4	mg/L	1.2	0.10	1		03/04/17 16:39	16887-00-6	
Nitrate as N	0.15	mg/L	0.10	0.013	1		03/04/17 16:39	14797-55-8	
Sulfate	3.8	mg/L	1.2	0.16	1		03/04/17 16:39	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW3D-GW-030317 **Lab ID: 10380882001** Collected: 03/03/17 08:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.41J	mg/L	1.0	0.20	1		03/09/17 23:42	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW8S-GW-030317 **Lab ID: 10380882002** Collected: 03/03/17 09:25 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 15:54	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 15:54	74-85-1	
Methane	1.6J	ug/L	10.0	0.49	1		03/07/17 15:54	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	28.4J	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 15:08	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:08	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:08	7440-38-2	
Barium, Dissolved	38.8	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 15:08	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 15:08	7440-41-7	
Cadmium, Dissolved	0.32J	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 15:08	7440-43-9	
Calcium, Dissolved	44200	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 15:08	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 15:08	7440-47-3	
Cobalt, Dissolved	1.5J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 15:08	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 15:08	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 15:08	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 15:08	7439-92-1	
Magnesium, Dissolved	10700	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 15:08	7439-95-4	
Manganese, Dissolved	146	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 15:08	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 15:08	7440-02-0	
Potassium, Dissolved	418J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 15:08	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 15:08	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 15:08	7440-22-4	
Sodium, Dissolved	11500	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 15:08	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 15:08	7440-28-0	
Vanadium, Dissolved	1.4J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 15:08	7440-62-2	
Zinc, Dissolved	20.6	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 15:08	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:34	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	124	mg/L	5.0	1.4	1		03/14/17 11:48		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	255	mg/L	10.0	5.0	1		03/10/17 11:51		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:37	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.8	mg/L	1.2	0.10	1		03/04/17 16:54	16887-00-6	
Nitrate as N	6.9	mg/L	0.10	0.013	1		03/04/17 16:54	14797-55-8	
Sulfate	18.8	mg/L	1.2	0.16	1		03/04/17 16:54	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW8S-GW-030317 **Lab ID: 10380882002** Collected: 03/03/17 09:25 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.3	mg/L	1.0	0.20	1		03/09/17 21:04	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW10S-GW-030317 **Lab ID: 10380882003** Collected: 03/03/17 10:10 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 16:01	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 16:01	74-85-1	
Methane	26.4	ug/L	10.0	0.49	1		03/07/17 16:01	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	22.3J	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 15:11	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:11	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:11	7440-38-2	
Barium, Dissolved	65.7	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 15:11	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 15:11	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 15:11	7440-43-9	
Calcium, Dissolved	74200	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 15:11	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 15:11	7440-47-3	
Cobalt, Dissolved	1.9J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 15:11	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 15:11	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 15:11	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 15:11	7439-92-1	
Magnesium, Dissolved	21100	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 15:11	7439-95-4	
Manganese, Dissolved	204	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 15:11	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 15:11	7440-02-0	
Potassium, Dissolved	738J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 15:11	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 15:11	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 15:11	7440-22-4	
Sodium, Dissolved	13200	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 15:11	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 15:11	7440-28-0	
Vanadium, Dissolved	3.6J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 15:11	7440-62-2	
Zinc, Dissolved	16.2J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 15:11	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:36	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	270	mg/L	5.0	1.4	1		03/14/17 12:18		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	307	mg/L	10.0	5.0	1		03/10/17 11:51		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	0.0097J	mg/L	0.020	0.0050	1		03/09/17 12:38	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	1.2J	mg/L	1.2	0.10	1		03/04/17 17:10	16887-00-6	
Nitrate as N	0.29	mg/L	0.10	0.013	1		03/04/17 17:10	14797-55-8	
Sulfate	2.6	mg/L	1.2	0.16	1		03/04/17 17:10	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW10S-GW-030317 **Lab ID: 10380882003** Collected: 03/03/17 10:10 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.99J	mg/L	1.0	0.20	1		03/09/17 18:53	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: W20-GW-030317 **Lab ID: 10380882004** Collected: 03/03/17 12:35 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 16:08	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 16:08	74-85-1	
Methane	46.1	ug/L	10.0	0.49	1		03/07/17 16:08	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 15:15	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:15	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:15	7440-38-2	
Barium, Dissolved	17.9	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 15:15	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 15:15	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 15:15	7440-43-9	
Calcium, Dissolved	40800	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 15:15	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 15:15	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 15:15	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 15:15	7440-50-8	
Iron, Dissolved	575	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 15:15	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 15:15	7439-92-1	
Magnesium, Dissolved	14100	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 15:15	7439-95-4	
Manganese, Dissolved	53.1	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 15:15	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 15:15	7440-02-0	
Potassium, Dissolved	2160J	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 15:15	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 15:15	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 15:15	7440-22-4	
Sodium, Dissolved	10800	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 15:15	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 15:15	7440-28-0	
Vanadium, Dissolved	6.7J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 15:15	7440-62-2	
Zinc, Dissolved	3.3J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 15:15	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:39	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	148	mg/L	5.0	1.4	1		03/14/17 12:23		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	236	mg/L	10.0	5.0	1		03/10/17 11:51		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	0.37	mg/L	0.020	0.0050	1		03/09/17 12:38	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	2.3	mg/L	1.2	0.10	1		03/04/17 17:25	16887-00-6	
Nitrate as N	4.4	mg/L	0.10	0.013	1		03/04/17 17:25	14797-55-8	
Sulfate	13.8	mg/L	1.2	0.16	1		03/04/17 17:25	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: W20-GW-030317 **Lab ID: 10380882004** Collected: 03/03/17 12:35 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.68J	mg/L	1.0	0.20	1		03/09/17 19:32	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

Sample: MW4D-GW-030317 **Lab ID: 10380882005** Collected: 03/03/17 14:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/07/17 16:16	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/07/17 16:16	74-85-1	
Methane	1.3J	ug/L	10.0	0.49	1		03/07/17 16:16	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/09/17 10:40	03/09/17 15:19	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:19	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/09/17 10:40	03/09/17 15:19	7440-38-2	
Barium, Dissolved	50.4	ug/L	10.0	0.20	1	03/09/17 10:40	03/09/17 15:19	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/09/17 10:40	03/09/17 15:19	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/09/17 10:40	03/09/17 15:19	7440-43-9	
Calcium, Dissolved	40500	ug/L	500	15.8	1	03/09/17 10:40	03/09/17 15:19	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/09/17 10:40	03/09/17 15:19	7440-47-3	
Cobalt, Dissolved	0.83J	ug/L	10.0	0.51	1	03/09/17 10:40	03/09/17 15:19	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/09/17 10:40	03/09/17 15:19	7440-50-8	
Iron, Dissolved	22.2J	ug/L	50.0	18.0	1	03/09/17 10:40	03/09/17 15:19	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/09/17 10:40	03/09/17 15:19	7439-92-1	
Magnesium, Dissolved	14100	ug/L	500	7.4	1	03/09/17 10:40	03/09/17 15:19	7439-95-4	
Manganese, Dissolved	32.1	ug/L	5.0	0.33	1	03/09/17 10:40	03/09/17 15:19	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/09/17 10:40	03/09/17 15:19	7440-02-0	
Potassium, Dissolved	2740	ug/L	2500	26.1	1	03/09/17 10:40	03/09/17 15:19	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/09/17 10:40	03/09/17 15:19	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/09/17 10:40	03/09/17 15:19	7440-22-4	
Sodium, Dissolved	17700	ug/L	1000	12.0	1	03/09/17 10:40	03/09/17 15:19	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/09/17 10:40	03/09/17 15:19	7440-28-0	
Vanadium, Dissolved	10J	ug/L	15.0	0.39	1	03/09/17 10:40	03/09/17 15:19	7440-62-2	
Zinc, Dissolved	11.8J	ug/L	20.0	1.4	1	03/09/17 10:40	03/09/17 15:19	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/09/17 09:11	03/12/17 21:41	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	159	mg/L	5.0	1.4	1		03/14/17 12:26		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	253	mg/L	10.0	5.0	1		03/10/17 11:51		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/09/17 12:39	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	5.1	mg/L	1.2	0.10	1		03/04/17 17:40	16887-00-6	M1
Nitrate as N	1.5	mg/L	0.10	0.013	1		03/04/17 17:40	14797-55-8	M1
Sulfate	16.1	mg/L	1.2	0.16	1		03/04/17 17:40	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

Sample: MW4D-GW-030317 **Lab ID: 10380882005** Collected: 03/03/17 14:20 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	1.2	mg/L	1.0	0.20	1		03/09/17 21:17	7440-44-0	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

QC Batch: 462823 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 2530559 Matrix: Water
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/07/17 13:45	
Ethene	ug/L	<0.77	10.0	0.77	03/07/17 13:45	
Methane	ug/L	1.7J	10.0	0.49	03/07/17 13:45	

LABORATORY CONTROL SAMPLE & LCSD: 2530560

Parameter	Units	2530561							Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD		
Ethane	ug/L	114	107	109	94	96	85-115	2	20	
Ethene	ug/L	106	99.5	102	94	96	85-115	3	20	
Methane	ug/L	60.7	56.5	58.7	93	97	85-115	4	20	

SAMPLE DUPLICATE: 2530562

Parameter	Units	10380873006 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	<0.87	<0.87		20	
Ethene	ug/L	<0.77	<0.77		20	
Methane	ug/L	0.97J	4.0J		20	

SAMPLE DUPLICATE: 2530563

Parameter	Units	60238928011 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethane	ug/L	ND	<0.87		20	
Ethene	ug/L	ND	<0.77		20	
Methane	ug/L	ND	1.6J		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

QC Batch: 462818

Analysis Method: EPA 7470A

QC Batch Method: EPA 7470A

Analysis Description: 7470A Mercury Water Dissolved

Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 2530538

Matrix: Water

Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/12/17 20:58	

LABORATORY CONTROL SAMPLE: 2530539

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.2	84	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530540 2530541

Parameter	Units	10380873002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	<0.031	5	5	4.3	4.1	85	81	80-120	5	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

QC Batch: 462813 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 2530518 Matrix: Water
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/09/17 13:56	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/09/17 13:56	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/09/17 13:56	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/09/17 13:56	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/09/17 13:56	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/09/17 13:56	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/09/17 13:56	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/09/17 13:56	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/09/17 13:56	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/09/17 13:56	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/09/17 13:56	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/09/17 13:56	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/09/17 13:56	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/09/17 13:56	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/09/17 13:56	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/09/17 13:56	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/09/17 13:56	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/09/17 13:56	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	03/09/17 13:56	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/09/17 13:56	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/09/17 13:56	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/09/17 13:56	

LABORATORY CONTROL SAMPLE: 2530519

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20200	101	80-120	
Antimony, Dissolved	ug/L	1000	952	95	80-120	
Arsenic, Dissolved	ug/L	1000	958	96	80-120	
Barium, Dissolved	ug/L	1000	982	98	80-120	
Beryllium, Dissolved	ug/L	1000	985	98	80-120	
Cadmium, Dissolved	ug/L	1000	986	99	80-120	
Calcium, Dissolved	ug/L	20000	19300	97	80-120	
Chromium, Dissolved	ug/L	1000	953	95	80-120	
Cobalt, Dissolved	ug/L	1000	971	97	80-120	
Copper, Dissolved	ug/L	1000	960	96	80-120	
Iron, Dissolved	ug/L	20000	19300	97	80-120	
Lead, Dissolved	ug/L	1000	979	98	80-120	
Magnesium, Dissolved	ug/L	20000	19900	99	80-120	
Manganese, Dissolved	ug/L	1000	975	97	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

LABORATORY CONTROL SAMPLE: 2530519

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	966	97	80-120	
Potassium, Dissolved	ug/L	20000	18700	93	80-120	
Selenium, Dissolved	ug/L	1000	1020	102	80-120	
Silver, Dissolved	ug/L	500	484	97	80-120	
Sodium, Dissolved	ug/L	20000	18800	94	80-120	
Thallium, Dissolved	ug/L	1000	907	91	80-120	
Vanadium, Dissolved	ug/L	1000	966	97	80-120	
Zinc, Dissolved	ug/L	1000	983	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2530520 2530521

Parameter	Units	MS		MSD		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		10380873001 Result	Spike Conc.	Spike Conc.	MSD Result							
Aluminum, Dissolved	ug/L	413	20000	20000	21100	20900	104	103	75-125	1	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	983	971	98	97	75-125	1	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	977	970	98	97	75-125	1	20	
Barium, Dissolved	ug/L	35.6	1000	1000	1030	1020	99	98	75-125	1	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	996	983	100	98	75-125	1	20	
Cadmium, Dissolved	ug/L	<0.30	1000	1000	992	977	99	98	75-125	2	20	
Calcium, Dissolved	ug/L	35900	20000	20000	56400	55300	102	97	75-125	2	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	959	948	96	95	75-125	1	20	
Cobalt, Dissolved	ug/L	0.92J	1000	1000	967	952	97	95	75-125	2	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	980	966	98	97	75-125	1	20	
Iron, Dissolved	ug/L	403	20000	20000	20000	19700	98	97	75-125	1	20	
Lead, Dissolved	ug/L	<1.9	1000	1000	975	963	97	96	75-125	1	20	
Magnesium, Dissolved	ug/L	10100	20000	20000	30600	30100	103	100	75-125	2	20	
Manganese, Dissolved	ug/L	60.7	1000	1000	1040	1020	98	96	75-125	1	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	956	945	96	94	75-125	1	20	
Potassium, Dissolved	ug/L	725J	20000	20000	20300	20100	98	97	75-125	1	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1020	1010	102	101	75-125	1	20	
Silver, Dissolved	ug/L	<0.28	500	500	489	483	98	97	75-125	1	20	
Sodium, Dissolved	ug/L	12100	20000	20000	31400	30800	97	94	75-125	2	20	
Thallium, Dissolved	ug/L	<3.8	1000	1000	913	905	91	90	75-125	1	20	
Vanadium, Dissolved	ug/L	6.3J	1000	1000	982	968	98	96	75-125	1	20	
Zinc, Dissolved	ug/L	9.9J	1000	1000	976	967	97	96	75-125	1	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

QC Batch: 463836 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 2535867 Matrix: Water
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<1.4	5.0	1.4	03/14/17 09:42	

LABORATORY CONTROL SAMPLE & LCSD: 2535868 2535869

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	40	38.6	38.7	96	97	90-110	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535870 2535871

Parameter	Units	10380721001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	178	40	40	218	217	100	98	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535872 2535873

Parameter	Units	10380962001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO3	mg/L	27.1	40	40	61.8	62.1	87	87	80-120	1	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

QC Batch: 462657

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380882001

METHOD BLANK: 2529864

Matrix: Water

Associated Lab Samples: 10380882001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	03/08/17 14:50	

LABORATORY CONTROL SAMPLE: 2529865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	972	97	80-120	

SAMPLE DUPLICATE: 2529866

Parameter	Units	10380679002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2700	2700	0	10	

SAMPLE DUPLICATE: 2529867

Parameter	Units	10380721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	223	230	3	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

QC Batch: 463362

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 2532836

Matrix: Water

Associated Lab Samples: 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	03/10/17 11:51	

LABORATORY CONTROL SAMPLE: 2532837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1050	105	80-120	

SAMPLE DUPLICATE: 2532838

Parameter	Units	10380882002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	255	252	1	10	

SAMPLE DUPLICATE: 2532839

Parameter	Units	10381080003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1860	1870	1	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

QC Batch: 76124

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 321041

Matrix: Water

Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/09/17 12:26	

LABORATORY CONTROL SAMPLE: 321042

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.18	91	90-110	

MATRIX SPIKE SAMPLE: 321044

Parameter	Units	2051352001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	ND	.2	0.15	75	75-125	

SAMPLE DUPLICATE: 321043

Parameter	Units	2051352001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	ND	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

QC Batch: 462563 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 2529369 Matrix: Water
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	03/04/17 12:33	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/04/17 12:33	
Sulfate	mg/L	<0.16	1.2	0.16	03/04/17 12:33	

LABORATORY CONTROL SAMPLE: 2529370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	11.8	94	90-110	
Nitrate as N	mg/L	1	0.93	93	90-110	
Sulfate	mg/L	12.5	12.0	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529371 2529372

Parameter	Units	10380873006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.3	12.5	12.5	15.5	15.6	90	90	90-110	1	20	
Nitrate as N	mg/L	<0.013	1	1	0.93	0.94	93	94	90-110	1	20	
Sulfate	mg/L	11.6	12.5	12.5	22.3	22.5	86	88	90-110	1	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2529425 2529426

Parameter	Units	10380882005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.1	12.5	12.5	16.3	16.3	90	89	90-110	0	20	M1
Nitrate as N	mg/L	1.5	1	1	2.2	2.2	75	74	90-110	0	20	M1
Sulfate	mg/L	16.1	12.5	12.5	26.3	26.3	82	81	90-110	0	20	M1

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

QC Batch: 107784 Analysis Method: SM 5310C
QC Batch Method: SM 5310C Analysis Description: 5310C TOC
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

METHOD BLANK: 426695 Matrix: Water
Associated Lab Samples: 10380882001, 10380882002, 10380882003, 10380882004, 10380882005

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/09/17 18:26	

LABORATORY CONTROL SAMPLE: 426696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426697 426698

Parameter	Units	10380882003		MS		MSD		% Rec		Limits		Max		Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Total Organic Carbon	mg/L	0.99J	25	25	25	26.7	27.2	103	105	80-120	2	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 426699 426700

Parameter	Units	10380873002		MS		MSD		% Rec		Limits		Max		Qual
		Result	Conc.	Spike Conc.	Conc.	Result	Result	% Rec	% Rec	RPD	RPD			
Total Organic Carbon	mg/L	3.2	25	25	25	29.0	29.1	103	103	80-120	0	20		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10380882

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10380882

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10380882001	MW3D-GW-030317	RSK 175	462823		
10380882002	MW8S-GW-030317	RSK 175	462823		
10380882003	MW10S-GW-030317	RSK 175	462823		
10380882004	W20-GW-030317	RSK 175	462823		
10380882005	MW4D-GW-030317	RSK 175	462823		
10380882001	MW3D-GW-030317	EPA 3010	462813	6010C Met	463341
10380882002	MW8S-GW-030317	EPA 3010	462813	6010C Met	463341
10380882003	MW10S-GW-030317	EPA 3010	462813	6010C Met	463341
10380882004	W20-GW-030317	EPA 3010	462813	6010C Met	463341
10380882005	MW4D-GW-030317	EPA 3010	462813	6010C Met	463341
10380882001	MW3D-GW-030317	EPA 7470A	462818	EPA 7470A	463331
10380882002	MW8S-GW-030317	EPA 7470A	462818	EPA 7470A	463331
10380882003	MW10S-GW-030317	EPA 7470A	462818	EPA 7470A	463331
10380882004	W20-GW-030317	EPA 7470A	462818	EPA 7470A	463331
10380882005	MW4D-GW-030317	EPA 7470A	462818	EPA 7470A	463331
10380882001	MW3D-GW-030317	SM 2320B	463836		
10380882002	MW8S-GW-030317	SM 2320B	463836		
10380882003	MW10S-GW-030317	SM 2320B	463836		
10380882004	W20-GW-030317	SM 2320B	463836		
10380882005	MW4D-GW-030317	SM 2320B	463836		
10380882001	MW3D-GW-030317	SM 2540C	462657		
10380882002	MW8S-GW-030317	SM 2540C	463362		
10380882003	MW10S-GW-030317	SM 2540C	463362		
10380882004	W20-GW-030317	SM 2540C	463362		
10380882005	MW4D-GW-030317	SM 2540C	463362		
10380882001	MW3D-GW-030317	SM 4500-S-2 D	76124		
10380882002	MW8S-GW-030317	SM 4500-S-2 D	76124		
10380882003	MW10S-GW-030317	SM 4500-S-2 D	76124		
10380882004	W20-GW-030317	SM 4500-S-2 D	76124		
10380882005	MW4D-GW-030317	SM 4500-S-2 D	76124		
10380882001	MW3D-GW-030317	EPA 300.0	462563		
10380882002	MW8S-GW-030317	EPA 300.0	462563		
10380882003	MW10S-GW-030317	EPA 300.0	462563		
10380882004	W20-GW-030317	EPA 300.0	462563		
10380882005	MW4D-GW-030317	EPA 300.0	462563		
10380882001	MW3D-GW-030317	SM 5310C	107784		
10380882002	MW8S-GW-030317	SM 5310C	107784		
10380882003	MW10S-GW-030317	SM 5310C	107784		
10380882004	W20-GW-030317	SM 5310C	107784		
10380882005	MW4D-GW-030317	SM 5310C	107784		

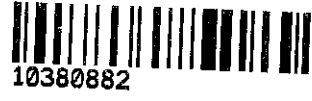
REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M Hill

Project #: WO# : 10380882



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
Tracking Number: 70214575 3805

Custody Seal on Cooler/Box Present? Yes No **Seals Intact?** Yes No **Optional:** Proj. Due Date: _____ Proj. Name: _____
Packing Material: Bubble Wrap Bubble Bags None Other: _____ **Temp Blank?** Yes No
Thermometer 151401163 **Type of Ice:** Wet Blue None Samples on ice, cooling process has begun
Used: 151401164

Cooler Temp Read (°C): 1.2 **Cooler Temp Corrected (°C):** 1.2 **Biological Tissue Frozen?** Yes No NA
 Temp should be above freezing to 6°C **Correction Factor:** None **Date and Initials of Person Examining Contents:** RLG 3/4/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input checked="" type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input checked="" type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>1-5</u>
(HNO ₃ , H ₂ SO ₄ , NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, (DOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin. <u>3-4-17</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<u>3-4-17</u> <input checked="" type="checkbox"/> NaOH
Per method, VOA pH is checked after analysis	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
3 Trip Blanks Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ **Date/Time:** _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:27</u>	Temp: <u>1.2</u>	Corrected Temp: <u>1.2</u>
Time: <u>11:47</u>	put in cooler	
Time: _____	Temp: _____	Corrected Temp: _____

Project Manager Review: _____

JENNI GROSS

Date: 03/06/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon R

Proj

WO#: 2051315

PM: ADC

Due Date: 03/20/17

CLIENT: PASI-MINN

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 3-7-17 JMB

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	5
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8 <u>SOD</u>
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13 If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form

Document Revised: 23Feb2015

Page 1 of 1

Document No.:
F-VM-C-001-Rev.09

Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO# : 1283830

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: SD

PM: CLJ Due Date: 03/20/17
CLIENT: PACE MPLS

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No

Seals Intact? Yes No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: _____

Temp Blank? Yes No

Thermometer Used: 140792808

Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 0.7 Cooler Temp Corrected °C: 0.7

Biological Tissue Frozen? Yes No NA

Temp should be above freezing to 6°C Correction Factor: 10.3

Date and Initials of Person Examining Contents: 3-8-17 MT

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>MT</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: _____

Date: 3-8-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 22, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

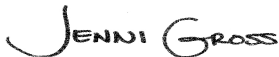
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414	Minnesota Certification #: 027-053-137
A2LA Certification #: 2926.01	Mississippi Certification #: MN00064
Alabama Certification #: 40770	Montana Certification #: CERT0092
Alaska Contaminated Sites Certification #: UST-078	Nebraska Certification #: NE-OS-18-06
Alaska DW Certification #: MN00064	Nevada Certification #: MN00064
Arizona Certification #: AZ0014	New Hampshire Certification #: 2081
Arkansas Certification #: 88-0680	New Jersey Certification #: MN002
California Certification #: MN00064	New York Certification #: 11647
CNMI Saipan Certification #:MP0003	North Carolina DW Certification #: 27700
Colorado Certification #: MN00064	North Carolina WW Certification #: 530
Connecticut Certification #: PH-0256	North Dakota Certification #: R-036
EPA Region 8 Certification #: 8TMS-L	Ohio DW Certification #: 41244
Florida Certification #: E87605	Ohio VAP Certification #: CL101
Georgia Certification #: 959	Oklahoma Certification #: 9507
Guam EPA Certification #: MN00064	Oregon NwTPH Certification #: MN300001
Hawaii Certification #: MN00064	Oregon Secondary Certification #: MN200001
Idaho Certification #: MN00064	Pennsylvania Certification #: 68-00563
Illinois Certification #: 200011	Puerto Rico Certification #: MN00064
Indiana Certification #: C-MN-01	South Carolina Certification #:74003001
Iowa Certification #: 368	Tennessee Certification #: TN02818
Kansas Certification #: E-10167	Texas Certification #: T104704192
Kentucky DW Certification #: 90062	Utah Certification #: MN00064
Kentucky WW Certification #: 90062	Virginia Certification #: 460163
Louisiana DEQ Certification #: 03086	Washington Certification #: C486
Louisiana DW Certification #: MN00064	West Virginia DW Certification #: 9952 C
Maine Certification #: MN00064	West Virginia WW Certification #: 382
Maryland Certification #: 322	Wisconsin Certification #: 999407970
Michigan Certification #: 9909	Wyoming via EPA Region 8 Certification #: 8TMS-L

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792	Minnesota Dept of Health Certification #: 027-137-445
California Certification #2973	North Dakota Certification: # R-203
Alaska Certification UST-107	Wisconsin DNR Certification # : 998027470
Alaska Certification UST-107	WA Department of Ecology Lab ID# C1007
California Certification #2973	Nevada DNR #MN010842015-1
Alaska Certification #MN01084	Oklahoma Department of Environmental Quality
Arizona Department of Health Certification #AZ0785	California Certification #2973

New Orleans Certification IDs

California Env. Lab Accreditation Program Branch: 11277CA	Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Florida Department of Health (NELAC): E87595	Texas Commission on Env. Quality (NELAC): T104704405-09-TX
Illinois Environmental Protection Agency: 0025721	U.S. Dept. of Agriculture Foreign Soil Import: P330-10- 00119
Kansas Department of Health and Environment (NELAC): E-10266	Commonwealth of Virginia (TNI): 480246
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006	

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10381427001	W26-GW-030917	Water	03/09/17 09:00	03/10/17 10:30
10381427002	Marlow No2-GW-030917	Water	03/09/17 11:00	03/10/17 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10381427001	W26-GW-030917	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V
10381427002	Marlow No2-GW-030917	RSK 175	MJL	3	PASI-M
		6010C Met	DM	22	PASI-M
		EPA 7470A	LMW	1	PASI-M
		SM 2320B	JFP	1	PASI-M
		SM 2540C	NAS	1	PASI-M
		SM 4500-S-2 D	CN	1	PASI-N
		EPA 300.0	KEO	3	PASI-M
		SM 5310C	CRE	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10381427001	W26-GW-030917					
RSK 175	Methane	1.7J	ug/L	10.0	03/13/17 15:31	
6010C Met	Barium, Dissolved	6.6J	ug/L	10.0	03/15/17 15:18	
6010C Met	Cadmium, Dissolved	0.31J	ug/L	3.0	03/15/17 15:18	
6010C Met	Calcium, Dissolved	37500	ug/L	500	03/15/17 15:18	
6010C Met	Magnesium, Dissolved	11100	ug/L	500	03/15/17 15:18	
6010C Met	Manganese, Dissolved	0.82J	ug/L	5.0	03/15/17 15:18	
6010C Met	Potassium, Dissolved	2220J	ug/L	2500	03/15/17 15:18	
6010C Met	Sodium, Dissolved	12500	ug/L	1000	03/15/17 15:18	
6010C Met	Thallium, Dissolved	5.8J	ug/L	20.0	03/15/17 15:18	
6010C Met	Vanadium, Dissolved	7.6J	ug/L	15.0	03/15/17 15:18	
6010C Met	Zinc, Dissolved	94.9	ug/L	20.0	03/15/17 15:18	
SM 2320B	Alkalinity, Total as CaCO3	141	mg/L	5.0	03/18/17 13:57	
SM 2540C	Total Dissolved Solids	233	mg/L	10.0	03/15/17 10:47	
EPA 300.0	Chloride	4.7	mg/L	1.2	03/10/17 18:44	
EPA 300.0	Nitrate as N	2.3	mg/L	0.10	03/10/17 18:44	M1
EPA 300.0	Sulfate	11.2	mg/L	1.2	03/10/17 18:44	
SM 5310C	Total Organic Carbon	0.64J	mg/L	1.0	03/14/17 22:02	
10381427002	Marlow No2-GW-030917					
RSK 175	Methane	2.1J	ug/L	10.0	03/13/17 14:34	
6010C Met	Arsenic, Dissolved	3.1J	ug/L	20.0	03/15/17 15:37	
6010C Met	Barium, Dissolved	13.8	ug/L	10.0	03/15/17 15:37	
6010C Met	Calcium, Dissolved	29500	ug/L	500	03/15/17 15:37	
6010C Met	Cobalt, Dissolved	0.70J	ug/L	10.0	03/15/17 15:37	
6010C Met	Copper, Dissolved	3.1J	ug/L	10.0	03/15/17 15:37	
6010C Met	Iron, Dissolved	75.7	ug/L	50.0	03/15/17 15:37	
6010C Met	Magnesium, Dissolved	7020	ug/L	500	03/15/17 15:37	
6010C Met	Manganese, Dissolved	44.0	ug/L	5.0	03/15/17 15:37	
6010C Met	Potassium, Dissolved	2430J	ug/L	2500	03/15/17 15:37	
6010C Met	Sodium, Dissolved	10800	ug/L	1000	03/15/17 15:37	
6010C Met	Vanadium, Dissolved	0.95J	ug/L	15.0	03/15/17 15:37	
6010C Met	Zinc, Dissolved	10.8J	ug/L	20.0	03/15/17 15:37	
SM 2320B	Alkalinity, Total as CaCO3	77.8	mg/L	5.0	03/18/17 14:11	
SM 2540C	Total Dissolved Solids	181	mg/L	10.0	03/15/17 10:47	
EPA 300.0	Chloride	5.3	mg/L	1.2	03/10/17 19:47	
EPA 300.0	Nitrate as N	5.8	mg/L	0.10	03/10/17 19:47	
EPA 300.0	Sulfate	20.2	mg/L	1.2	03/10/17 19:47	
SM 5310C	Total Organic Carbon	7.4	mg/L	1.0	03/14/17 22:42	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: 6010C Met

Description: 6010C MET ICP, Dissolved

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for 6010C Met. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: EPA 7470A

Description: 7470A Mercury, Dissolved

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: SM 2320B

Description: 2320B Alkalinity

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for SM 2320B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: SM 4500-S-2 D

Description: 4500S2D Sulfide, Total

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for SM 4500-S-2 D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: EPA 300.0

Description: 300.0 IC Anions

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 463560

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10381427001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2534446)
 - Nitrate as N
- MSD (Lab ID: 2534447)
 - Nitrate as N

Additional Comments:

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Method: SM 5310C

Description: 5310C TOC

Client: UPRR_CH2M Hill

Date: March 22, 2017

General Information:

2 samples were analyzed for SM 5310C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Sample: W26-GW-030917 **Lab ID: 10381427001** Collected: 03/09/17 09:00 Received: 03/10/17 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/13/17 15:31	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/13/17 15:31	74-85-1	
Methane	1.7J	ug/L	10.0	0.49	1		03/13/17 15:31	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/15/17 11:02	03/15/17 15:18	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/15/17 11:02	03/15/17 15:18	7440-36-0	
Arsenic, Dissolved	<2.5	ug/L	20.0	2.5	1	03/15/17 11:02	03/15/17 15:18	7440-38-2	
Barium, Dissolved	6.6J	ug/L	10.0	0.20	1	03/15/17 11:02	03/15/17 15:18	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/15/17 11:02	03/15/17 15:18	7440-41-7	
Cadmium, Dissolved	0.31J	ug/L	3.0	0.30	1	03/15/17 11:02	03/15/17 15:18	7440-43-9	
Calcium, Dissolved	37500	ug/L	500	15.8	1	03/15/17 11:02	03/15/17 15:18	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/15/17 11:02	03/15/17 15:18	7440-47-3	
Cobalt, Dissolved	<0.51	ug/L	10.0	0.51	1	03/15/17 11:02	03/15/17 15:18	7440-48-4	
Copper, Dissolved	<0.89	ug/L	10.0	0.89	1	03/15/17 11:02	03/15/17 15:18	7440-50-8	
Iron, Dissolved	<18.0	ug/L	50.0	18.0	1	03/15/17 11:02	03/15/17 15:18	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/15/17 11:02	03/15/17 15:18	7439-92-1	
Magnesium, Dissolved	11100	ug/L	500	7.4	1	03/15/17 11:02	03/15/17 15:18	7439-95-4	
Manganese, Dissolved	0.82J	ug/L	5.0	0.33	1	03/15/17 11:02	03/15/17 15:18	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/15/17 11:02	03/15/17 15:18	7440-02-0	
Potassium, Dissolved	2220J	ug/L	2500	26.1	1	03/15/17 11:02	03/15/17 15:18	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/15/17 11:02	03/15/17 15:18	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/15/17 11:02	03/15/17 15:18	7440-22-4	
Sodium, Dissolved	12500	ug/L	1000	12.0	1	03/15/17 11:02	03/15/17 15:18	7440-23-5	
Thallium, Dissolved	5.8J	ug/L	20.0	3.8	1	03/15/17 11:02	03/15/17 15:18	7440-28-0	
Vanadium, Dissolved	7.6J	ug/L	15.0	0.39	1	03/15/17 11:02	03/15/17 15:18	7440-62-2	
Zinc, Dissolved	94.9	ug/L	20.0	1.4	1	03/15/17 11:02	03/15/17 15:18	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/14/17 10:50	03/20/17 16:42	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	141	mg/L	5.0	1.4	1		03/18/17 13:57		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	233	mg/L	10.0	5.0	1		03/15/17 10:47		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/14/17 17:18	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	4.7	mg/L	1.2	0.10	1		03/10/17 18:44	16887-00-6	
Nitrate as N	2.3	mg/L	0.10	0.013	1		03/10/17 18:44	14797-55-8	M1
Sulfate	11.2	mg/L	1.2	0.16	1		03/10/17 18:44	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Sample: W26-GW-030917 **Lab ID: 10381427001** Collected: 03/09/17 09:00 Received: 03/10/17 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	0.64J	mg/L	1.0	0.20	1		03/14/17 22:02	7440-44-0	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

Sample: Marlow No2-GW-030917 **Lab ID: 10381427002** Collected: 03/09/17 11:00 Received: 03/10/17 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Ethane	<0.87	ug/L	10.0	0.87	1		03/13/17 14:34	74-84-0	
Ethene	<0.77	ug/L	10.0	0.77	1		03/13/17 14:34	74-85-1	
Methane	2.1J	ug/L	10.0	0.49	1		03/13/17 14:34	74-82-8	
6010C MET ICP, Dissolved Analytical Method: 6010C Met Preparation Method: EPA 3010									
Aluminum, Dissolved	<13.5	ug/L	200	13.5	1	03/15/17 11:02	03/15/17 15:37	7429-90-5	
Antimony, Dissolved	<2.5	ug/L	20.0	2.5	1	03/15/17 11:02	03/15/17 15:37	7440-36-0	
Arsenic, Dissolved	3.1J	ug/L	20.0	2.5	1	03/15/17 11:02	03/15/17 15:37	7440-38-2	
Barium, Dissolved	13.8	ug/L	10.0	0.20	1	03/15/17 11:02	03/15/17 15:37	7440-39-3	
Beryllium, Dissolved	<0.064	ug/L	5.0	0.064	1	03/15/17 11:02	03/15/17 15:37	7440-41-7	
Cadmium, Dissolved	<0.30	ug/L	3.0	0.30	1	03/15/17 11:02	03/15/17 15:37	7440-43-9	
Calcium, Dissolved	29500	ug/L	500	15.8	1	03/15/17 11:02	03/15/17 15:37	7440-70-2	
Chromium, Dissolved	<2.0	ug/L	10.0	2.0	1	03/15/17 11:02	03/15/17 15:37	7440-47-3	
Cobalt, Dissolved	0.70J	ug/L	10.0	0.51	1	03/15/17 11:02	03/15/17 15:37	7440-48-4	
Copper, Dissolved	3.1J	ug/L	10.0	0.89	1	03/15/17 11:02	03/15/17 15:37	7440-50-8	
Iron, Dissolved	75.7	ug/L	50.0	18.0	1	03/15/17 11:02	03/15/17 15:37	7439-89-6	
Lead, Dissolved	<1.9	ug/L	10.0	1.9	1	03/15/17 11:02	03/15/17 15:37	7439-92-1	
Magnesium, Dissolved	7020	ug/L	500	7.4	1	03/15/17 11:02	03/15/17 15:37	7439-95-4	
Manganese, Dissolved	44.0	ug/L	5.0	0.33	1	03/15/17 11:02	03/15/17 15:37	7439-96-5	
Nickel, Dissolved	<1.6	ug/L	20.0	1.6	1	03/15/17 11:02	03/15/17 15:37	7440-02-0	
Potassium, Dissolved	2430J	ug/L	2500	26.1	1	03/15/17 11:02	03/15/17 15:37	7440-09-7	
Selenium, Dissolved	<4.5	ug/L	20.0	4.5	1	03/15/17 11:02	03/15/17 15:37	7782-49-2	
Silver, Dissolved	<0.28	ug/L	10.0	0.28	1	03/15/17 11:02	03/15/17 15:37	7440-22-4	
Sodium, Dissolved	10800	ug/L	1000	12.0	1	03/15/17 11:02	03/15/17 15:37	7440-23-5	
Thallium, Dissolved	<3.8	ug/L	20.0	3.8	1	03/15/17 11:02	03/15/17 15:37	7440-28-0	
Vanadium, Dissolved	0.95J	ug/L	15.0	0.39	1	03/15/17 11:02	03/15/17 15:37	7440-62-2	
Zinc, Dissolved	10.8J	ug/L	20.0	1.4	1	03/15/17 11:02	03/15/17 15:37	7440-66-6	
7470A Mercury, Dissolved Analytical Method: EPA 7470A Preparation Method: EPA 7470A									
Mercury, Dissolved	<0.031	ug/L	0.20	0.031	1	03/14/17 10:50	03/20/17 16:49	7439-97-6	
2320B Alkalinity Analytical Method: SM 2320B									
Alkalinity, Total as CaCO3	77.8	mg/L	5.0	1.4	1		03/18/17 14:11		
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	181	mg/L	10.0	5.0	1		03/15/17 10:47		
4500S2D Sulfide, Total Analytical Method: SM 4500-S-2 D									
Sulfide, Total	<0.0050	mg/L	0.020	0.0050	1		03/14/17 17:19	18496-25-8	
300.0 IC Anions Analytical Method: EPA 300.0									
Chloride	5.3	mg/L	1.2	0.10	1		03/10/17 19:47	16887-00-6	
Nitrate as N	5.8	mg/L	0.10	0.013	1		03/10/17 19:47	14797-55-8	
Sulfate	20.2	mg/L	1.2	0.16	1		03/10/17 19:47	14808-79-8	

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

Sample: Marlow No2-GW-030917 **Lab ID: 10381427002** Collected: 03/09/17 11:00 Received: 03/10/17 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC									
Analytical Method: SM 5310C									
Total Organic Carbon	7.4	mg/L	1.0	0.20	1		03/14/17 22:42	7440-44-0	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

QC Batch: 463627 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 2535071 Matrix: Water
Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Ethane	ug/L	<0.87	10.0	0.87	03/13/17 13:58	
Ethene	ug/L	<0.77	10.0	0.77	03/13/17 13:58	
Methane	ug/L	2.1J	10.0	0.49	03/13/17 13:58	

LABORATORY CONTROL SAMPLE & LCSD: 2535072

Parameter	Units	2535073								Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD			
Ethane	ug/L	114	118	116	104	102	85-115	2	20		
Ethene	ug/L	106	111	108	104	102	85-115	3	20		
Methane	ug/L	60.7	63.0	61.3	104	101	85-115	3	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535074

Parameter	Units	10381411008 Result	2535075									
			MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	10.0 U	114	114	127	165	111	145	30-150	26	20	R1
Ethene	ug/L	10.0 U	106	106	117	150	110	141	30-150	25	20	R1
Methane	ug/L	470	60.7	60.7	557	839	144	609	30-150	40	20	R1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535076

Parameter	Units	10381427001 Result	2535077									
			MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Ethane	ug/L	<0.87	114	114	122	108	107	95	30-150	12	20	
Ethene	ug/L	<0.77	106	106	113	101	107	95	30-150	11	20	
Methane	ug/L	1.7J	60.7	60.7	64.6	56.4	104	90	30-150	14	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

QC Batch: 463638 Analysis Method: EPA 7470A
QC Batch Method: EPA 7470A Analysis Description: 7470A Mercury Water Dissolved
Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 2535105 Matrix: Water
Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	<0.031	0.20	0.031	03/20/17 16:38	

LABORATORY CONTROL SAMPLE: 2535106

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535107 2535108

Parameter	Units	10381427001		2535107		2535108		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec					MSD % Rec
Mercury, Dissolved	ug/L	<0.031	5	5	4.6	4.7	91	93	80-120	2	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

QC Batch: 463725 Analysis Method: 6010C Met
QC Batch Method: EPA 3010 Analysis Description: 6010C Water Dissolved
Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 2535455 Matrix: Water
Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	<13.5	200	13.5	03/15/17 15:10	
Antimony, Dissolved	ug/L	<2.5	20.0	2.5	03/15/17 15:10	
Arsenic, Dissolved	ug/L	<2.5	20.0	2.5	03/15/17 15:10	
Barium, Dissolved	ug/L	<0.20	10.0	0.20	03/15/17 15:10	
Beryllium, Dissolved	ug/L	<0.064	5.0	0.064	03/15/17 15:10	
Cadmium, Dissolved	ug/L	<0.30	3.0	0.30	03/15/17 15:10	
Calcium, Dissolved	ug/L	<15.8	500	15.8	03/15/17 15:10	
Chromium, Dissolved	ug/L	<2.0	10.0	2.0	03/15/17 15:10	
Cobalt, Dissolved	ug/L	<0.51	10.0	0.51	03/15/17 15:10	
Copper, Dissolved	ug/L	<0.89	10.0	0.89	03/15/17 15:10	
Iron, Dissolved	ug/L	<18.0	50.0	18.0	03/15/17 15:10	
Lead, Dissolved	ug/L	<1.9	10.0	1.9	03/15/17 15:10	
Magnesium, Dissolved	ug/L	<7.4	500	7.4	03/15/17 15:10	
Manganese, Dissolved	ug/L	<0.33	5.0	0.33	03/15/17 15:10	
Nickel, Dissolved	ug/L	<1.6	20.0	1.6	03/15/17 15:10	
Potassium, Dissolved	ug/L	<26.1	2500	26.1	03/15/17 15:10	
Selenium, Dissolved	ug/L	<4.5	20.0	4.5	03/15/17 15:10	
Silver, Dissolved	ug/L	<0.28	10.0	0.28	03/15/17 15:10	
Sodium, Dissolved	ug/L	<12.0	1000	12.0	03/15/17 15:10	
Thallium, Dissolved	ug/L	<3.8	20.0	3.8	03/15/17 15:10	
Vanadium, Dissolved	ug/L	<0.39	15.0	0.39	03/15/17 15:10	
Zinc, Dissolved	ug/L	<1.4	20.0	1.4	03/15/17 15:10	

LABORATORY CONTROL SAMPLE: 2535456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	20000	20300	101	80-120	
Antimony, Dissolved	ug/L	1000	996	100	80-120	
Arsenic, Dissolved	ug/L	1000	1030	103	80-120	
Barium, Dissolved	ug/L	1000	988	99	80-120	
Beryllium, Dissolved	ug/L	1000	1030	103	80-120	
Cadmium, Dissolved	ug/L	1000	1010	101	80-120	
Calcium, Dissolved	ug/L	20000	19200	96	80-120	
Chromium, Dissolved	ug/L	1000	974	97	80-120	
Cobalt, Dissolved	ug/L	1000	977	98	80-120	
Copper, Dissolved	ug/L	1000	946	95	80-120	
Iron, Dissolved	ug/L	20000	19500	97	80-120	
Lead, Dissolved	ug/L	1000	994	99	80-120	
Magnesium, Dissolved	ug/L	20000	19800	99	80-120	
Manganese, Dissolved	ug/L	1000	985	99	80-120	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

LABORATORY CONTROL SAMPLE: 2535456

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nickel, Dissolved	ug/L	1000	989	99	80-120	
Potassium, Dissolved	ug/L	20000	19300	97	80-120	
Selenium, Dissolved	ug/L	1000	1060	106	80-120	
Silver, Dissolved	ug/L	500	487	97	80-120	
Sodium, Dissolved	ug/L	20000	19000	95	80-120	
Thallium, Dissolved	ug/L	1000	977	98	80-120	
Vanadium, Dissolved	ug/L	1000	948	95	80-120	
Zinc, Dissolved	ug/L	1000	1010	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535457 2535458

Parameter	Units	10381427001		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec				
Aluminum, Dissolved	ug/L	<13.5	20000	20000	20500	20100	102	101	75-125	2	20	
Antimony, Dissolved	ug/L	<2.5	1000	1000	1000	990	100	99	75-125	1	20	
Arsenic, Dissolved	ug/L	<2.5	1000	1000	1030	1020	103	102	75-125	1	20	
Barium, Dissolved	ug/L	6.6J	1000	1000	998	981	99	97	75-125	2	20	
Beryllium, Dissolved	ug/L	<0.064	1000	1000	1040	1030	104	103	75-125	1	20	
Cadmium, Dissolved	ug/L	0.31J	1000	1000	1010	994	101	99	75-125	1	20	
Calcium, Dissolved	ug/L	37500	20000	20000	56700	55900	96	92	75-125	1	20	
Chromium, Dissolved	ug/L	<2.0	1000	1000	976	961	98	96	75-125	2	20	
Cobalt, Dissolved	ug/L	<0.51	1000	1000	965	949	96	95	75-125	2	20	
Copper, Dissolved	ug/L	<0.89	1000	1000	956	940	96	94	75-125	2	20	
Iron, Dissolved	ug/L	<18.0	20000	20000	19500	19200	97	96	75-125	1	20	
Lead, Dissolved	ug/L	<1.9	1000	1000	985	971	98	97	75-125	1	20	
Magnesium, Dissolved	ug/L	11100	20000	20000	31100	30700	100	98	75-125	1	20	
Manganese, Dissolved	ug/L	0.82J	1000	1000	983	970	98	97	75-125	1	20	
Nickel, Dissolved	ug/L	<1.6	1000	1000	972	958	97	96	75-125	1	20	
Potassium, Dissolved	ug/L	2220J	20000	20000	22200	21900	100	98	75-125	1	20	
Selenium, Dissolved	ug/L	<4.5	1000	1000	1060	1040	106	104	75-125	2	20	
Silver, Dissolved	ug/L	<0.28	500	500	489	483	98	97	75-125	1	20	
Sodium, Dissolved	ug/L	12500	20000	20000	31700	31100	96	93	75-125	2	20	
Thallium, Dissolved	ug/L	5.8J	1000	1000	981	962	98	96	75-125	2	20	
Vanadium, Dissolved	ug/L	7.6J	1000	1000	960	946	95	94	75-125	1	20	
Zinc, Dissolved	ug/L	94.9	1000	1000	1090	1070	99	98	75-125	2	20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

QC Batch: 464541 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 2540247 Matrix: Water

Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	<1.4	5.0	1.4	03/18/17 12:50	

LABORATORY CONTROL SAMPLE & LCSD: 2540248 2540249

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO ₃	mg/L	40	40.9	41.1	102	103	90-110	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2540250 2540251

Parameter	Units	10381411008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	169	40	40	210	209	101	99	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2540252 2540253

Parameter	Units	10381427001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Alkalinity, Total as CaCO ₃	mg/L	141	40	40	180	180	99	98	80-120	0	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

QC Batch: 464010

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 2536885

Matrix: Water

Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	10.0	5.0	03/15/17 10:47	

LABORATORY CONTROL SAMPLE: 2536886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1060	106	80-120	

SAMPLE DUPLICATE: 2536887

Parameter	Units	10381427001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	233	226	3	10	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

QC Batch: 76419

Analysis Method: SM 4500-S-2 D

QC Batch Method: SM 4500-S-2 D

Analysis Description: 4500S2D Sulfide, Total

Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 322641

Matrix: Water

Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.0050	0.020	0.0050	03/14/17 16:46	

LABORATORY CONTROL SAMPLE: 322642

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	.2	0.22	108	90-110	

MATRIX SPIKE SAMPLE: 322644

Parameter	Units	10381427001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	<0.0050	.2	0.17	85	75-125	

SAMPLE DUPLICATE: 322643

Parameter	Units	10381427001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.0050	<0.0050		20	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

QC Batch: 463560

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 2534444

Matrix: Water

Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.10	1.2	0.10	03/10/17 18:29	
Nitrate as N	mg/L	<0.013	0.10	0.013	03/10/17 18:29	
Sulfate	mg/L	<0.16	1.2	0.16	03/10/17 18:29	

LABORATORY CONTROL SAMPLE: 2534445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	12.5	13.1	105	90-110	
Nitrate as N	mg/L	1	1.0	105	90-110	
Sulfate	mg/L	12.5	13.7	109	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2534446 2534447

Parameter	Units	10381427001		2534447		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	% Rec	% Rec					
Chloride	mg/L	4.7	12.5	12.5	17.5	17.4	102	102	90-110	0	20		
Nitrate as N	mg/L	2.3	1	1	3.1	3.1	81	80	90-110	0	20	M1	
Sulfate	mg/L	11.2	12.5	12.5	23.7	23.7	100	100	90-110	0	20		

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

QC Batch: 108146

Analysis Method: SM 5310C

QC Batch Method: SM 5310C

Analysis Description: 5310C TOC

Associated Lab Samples: 10381427001, 10381427002

METHOD BLANK: 428098

Matrix: Water

Associated Lab Samples: 10381427001, 10381427002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Organic Carbon	mg/L	<0.20	1.0	0.20	03/14/17 16:20	

LABORATORY CONTROL SAMPLE: 428099

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.3	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 428100 428101

Parameter	Units	10381411008 Result	MS		MSD		% Rec		% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result	% Rec	% Rec				
Total Organic Carbon	mg/L	1.0 U	25	25	26.7	27.1	103	105	80-120	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 428102 428103

Parameter	Units	10381427001 Result	MS		MSD		% Rec		% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result	% Rec	% Rec				
Total Organic Carbon	mg/L	0.64J	25	25	26.5	27.0	104	105	80-120	2	20	

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381427

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-N Pace Analytical Services - New Orleans

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman
Pace Project No.: 10381427

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10381427001	W26-GW-030917	RSK 175	463627		
10381427002	Marlow No2-GW-030917	RSK 175	463627		
10381427001	W26-GW-030917	EPA 3010	463725	6010C Met	464105
10381427002	Marlow No2-GW-030917	EPA 3010	463725	6010C Met	464105
10381427001	W26-GW-030917	EPA 7470A	463638	EPA 7470A	463906
10381427002	Marlow No2-GW-030917	EPA 7470A	463638	EPA 7470A	463906
10381427001	W26-GW-030917	SM 2320B	464541		
10381427002	Marlow No2-GW-030917	SM 2320B	464541		
10381427001	W26-GW-030917	SM 2540C	464010		
10381427002	Marlow No2-GW-030917	SM 2540C	464010		
10381427001	W26-GW-030917	SM 4500-S-2 D	76419		
10381427002	Marlow No2-GW-030917	SM 4500-S-2 D	76419		
10381427001	W26-GW-030917	EPA 300.0	463560		
10381427002	Marlow No2-GW-030917	EPA 300.0	463560		
10381427001	W26-GW-030917	SM 5310C	108146		
10381427002	Marlow No2-GW-030917	SM 5310C	108146		

REPORT OF LABORATORY ANALYSIS

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Document Name: Sample Condition Upon Receipt Form - ESI

Document Revised: 21Dec2016 Page 1 of 2

Document No.: F-MN-L-210-rev.22

Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt - ESI Tech Specs

Client Name: CH2M HILL

Project #: WO#: 10381427



Courier: [X] Fed Ex [] UPS [] USPS [] Client [] Commercial [] Pace [] Speedee [] Other: Tracking Number: 7222 2739 8610

Custody Seal on Cooler/Box Present? [X] Yes [] No Seals Intact? [X] Yes [] No Packing Material: [X] Bubble Wrap [] Bubble Bags [] None [] Other: Temp Blank? [X] Yes [] No Thermometer Used: [X] 151401163 [] 151401164 Type of Ice: [X] Wet [] Blue [] None [] Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.5 Cooler Temp Corrected (°C): 0.6 Biological Tissue Frozen? [] Yes [] No [X] NA Temp should be above freezing to 6°C Correction Factor: -0.1 Date and Initials of Person Examining Contents: RG 3/10/17

USDA Regulated Soil ([X] N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? [] Yes [] No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? [] Yes [] No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

Table with 2 columns: Question and COMMENTS. Contains 15 rows of checklist items regarding custody, sampling, and preservation.

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? [] Yes [] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log table with columns for Time, Temp, and Corrected Temp. Includes handwritten entries for 0.5 and 0.6.

Project Manager Review: JENNI GROSS Date: 03/10/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO#: 2051576



1000 Riverbend Blvd., Suite F
St. Rose, LA 70087

Sample Condition Upon Receipt

PM: ADC

Due Date: 03/27/17

CLIENT: PASI-MINN

Project: _____

Courier: Pace Courier Hired Courier Fed X UPS DHL USPS Customer Other

Custody Seal on Cooler/Box Present: [see COC]

Custody Seals intact: Yes No

Thermometer Used: Therm Fisher IR 5
 Therm Fisher IR 6
 Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 03-11-17 AS

Temp must be measured from Temperature blank when present

Comments:

Temperature Blank Present?"	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Complete:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4	
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7	
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Filtered vol. Rec. for Diss. tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	9	
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
All containers received within manufacture's precautionary and/or expiration dates.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	If No, was preservative added? <input type="checkbox"/> Yes <input type="checkbox"/> No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14	
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____



Document Name:
Sample Condition Upon Receipt Form
 Document No.:
 F-VM-C-001-Rev.09

Document Revised: 23Feb2015
 Page 1 of 1
 Issuing Authority:
 Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pace m IV Project #: **WO#: 1284021**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Other: _____

WO#: 1284021
 PM: CLJ Due Date: 03/24/17
 CLIENT: PACE MPLS

Tracking Number: _____

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags None Other: HAZ PAD Temp Blank? Yes No

Thermometer Used: 140792808 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.2 Cooler Temp Corrected °C: 1.5 Biological Tissue Frozen? Yes No NA
 Temp should be above freezing to 5°C Correction Factor: -0.3 Date and Initials of Person Examining Contents: JPK 3/10/17

Comments: MT 3-13-17 ac

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/iD/Analysis Matrix: <u>wt</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Carrigan Date: 3/13/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 15, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

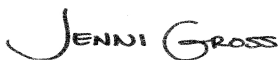
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10381428001	Marlow No2-GW-030917	Water	03/09/17 11:00	03/10/17 10:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10381428001	Marlow No2-GW-030917	EPA 8260B	DJB	83	PASI-M

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SUMMARY OF DETECTION

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10381428001	Marlow No2-GW-030917					
EPA 8260B	Carbon tetrachloride	0.25J	ug/L	0.50	03/14/17 18:16	
EPA 8260B	Chloroform	0.27J	ug/L	1.0	03/14/17 18:16	
EPA 8260B	Chloromethane	2.1J	ug/L	4.0	03/14/17 18:16	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Method: EPA 8260B

Description: 8260B MSV Low Level

Client: UPRR_CH2M Hill

Date: March 15, 2017

General Information:

1 sample was analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 463838

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10381411008,10381429001

R1: RPD value was outside control limits.

- MSD (Lab ID: 2535881)
 - Acrolein
 - Diisopropyl ether

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Sample: Marlow No2-GW-030917 Lab ID: 10381428001 Collected: 03/09/17 11:00 Received: 03/10/17 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
1,1,1,2-Tetrachloroethane	<0.064	ug/L	0.50	0.064	1		03/14/17 18:16	630-20-6	
1,1,1-Trichloroethane	<0.057	ug/L	0.50	0.057	1		03/14/17 18:16	71-55-6	
1,1,2,2-Tetrachloroethane	<0.055	ug/L	0.50	0.055	1		03/14/17 18:16	79-34-5	
1,1,2-Trichloroethane	<0.064	ug/L	0.50	0.064	1		03/14/17 18:16	79-00-5	
1,1,2-Trichlorotrifluoroethane	<0.13	ug/L	1.0	0.13	1		03/14/17 18:16	76-13-1	
1,1-Dichloroethane	<0.055	ug/L	0.50	0.055	1		03/14/17 18:16	75-34-3	
1,1-Dichloroethene	<0.069	ug/L	0.50	0.069	1		03/14/17 18:16	75-35-4	
1,1-Dichloropropene	<0.082	ug/L	0.50	0.082	1		03/14/17 18:16	563-58-6	
1,2,3-Trichlorobenzene	<0.17	ug/L	4.0	0.17	1		03/14/17 18:16	87-61-6	
1,2,3-Trichloropropane	<0.19	ug/L	4.0	0.19	1		03/14/17 18:16	96-18-4	
1,2,4-Trichlorobenzene	<0.14	ug/L	4.0	0.14	1		03/14/17 18:16	120-82-1	
1,2,4-Trimethylbenzene	<0.068	ug/L	1.0	0.068	1		03/14/17 18:16	95-63-6	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	4.0	0.60	1		03/14/17 18:16	96-12-8	
1,2-Dibromoethane (EDB)	<0.092	ug/L	0.50	0.092	1		03/14/17 18:16	106-93-4	
1,2-Dichlorobenzene	<0.078	ug/L	0.50	0.078	1		03/14/17 18:16	95-50-1	
1,2-Dichloroethane	<0.072	ug/L	0.50	0.072	1		03/14/17 18:16	107-06-2	
1,2-Dichloroethene (Total)	<0.16	ug/L	1.0	0.16	1		03/14/17 18:16	540-59-0	
1,2-Dichloropropane	<0.066	ug/L	4.0	0.066	1		03/14/17 18:16	78-87-5	
1,3,5-Trimethylbenzene	<0.042	ug/L	1.0	0.042	1		03/14/17 18:16	108-67-8	
1,3-Dichlorobenzene	<0.085	ug/L	0.50	0.085	1		03/14/17 18:16	541-73-1	
1,3-Dichloropropane	<0.059	ug/L	0.50	0.059	1		03/14/17 18:16	142-28-9	
1,4-Dichlorobenzene	<0.081	ug/L	0.50	0.081	1		03/14/17 18:16	106-46-7	
1,4-Dioxane (p-Dioxane)	<4.8	ug/L	200	4.8	1		03/14/17 18:16	123-91-1	
2,2,4-Trimethylpentane	<0.087	ug/L	4.0	0.087	1		03/14/17 18:16	540-84-1	
2,2-Dichloropropane	<0.096	ug/L	1.0	0.096	1		03/14/17 18:16	594-20-7	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		03/14/17 18:16	78-93-3	
2-Chlorotoluene	<0.084	ug/L	0.50	0.084	1		03/14/17 18:16	95-49-8	
2-Hexanone	<0.19	ug/L	5.0	0.19	1		03/14/17 18:16	591-78-6	
4-Chlorotoluene	<0.048	ug/L	1.0	0.048	1		03/14/17 18:16	106-43-4	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/L	5.0	0.80	1		03/14/17 18:16	108-10-1	
Acetone	<0.64	ug/L	20.0	0.64	1		03/14/17 18:16	67-64-1	
Acrolein	<2.1	ug/L	10.0	2.1	1		03/14/17 18:16	107-02-8	
Acrylonitrile	<0.49	ug/L	10.0	0.49	1		03/14/17 18:16	107-13-1	
Benzene	<0.042	ug/L	0.50	0.042	1		03/14/17 18:16	71-43-2	
Bromobenzene	<0.087	ug/L	0.50	0.087	1		03/14/17 18:16	108-86-1	
Bromochloromethane	<0.082	ug/L	4.0	0.082	1		03/14/17 18:16	74-97-5	
Bromodichloromethane	<0.068	ug/L	0.50	0.068	1		03/14/17 18:16	75-27-4	
Bromoform	<0.11	ug/L	4.0	0.11	1		03/14/17 18:16	75-25-2	
Bromomethane	<0.20	ug/L	4.0	0.20	1		03/14/17 18:16	74-83-9	
Carbon disulfide	<0.20	ug/L	1.0	0.20	1		03/14/17 18:16	75-15-0	
Carbon tetrachloride	0.25J	ug/L	0.50	0.079	1		03/14/17 18:16	56-23-5	
Chlorobenzene	<0.066	ug/L	0.50	0.066	1		03/14/17 18:16	108-90-7	
Chloroethane	<0.12	ug/L	1.0	0.12	1		03/14/17 18:16	75-00-3	
Chloroform	0.27J	ug/L	1.0	0.21	1		03/14/17 18:16	67-66-3	
Chloromethane	2.1J	ug/L	4.0	0.080	1		03/14/17 18:16	74-87-3	
Dibromochloromethane	<0.048	ug/L	0.50	0.048	1		03/14/17 18:16	124-48-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Sample: Marlow No2-GW-030917 **Lab ID: 10381428001** Collected: 03/09/17 11:00 Received: 03/10/17 10:30 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV Low Level		Analytical Method: EPA 8260B							
Dibromomethane	<0.14	ug/L	1.0	0.14	1		03/14/17 18:16	74-95-3	
Dichlorodifluoromethane	<0.075	ug/L	1.0	0.075	1		03/14/17 18:16	75-71-8	
Dichlorofluoromethane	<0.054	ug/L	1.0	0.054	1		03/14/17 18:16	75-43-4	
Diisopropyl ether	<0.050	ug/L	1.0	0.050	1		03/14/17 18:16	108-20-3	
Ethyl-tert-butyl ether	<0.062	ug/L	0.50	0.062	1		03/14/17 18:16	637-92-3	
Ethylbenzene	<0.075	ug/L	0.50	0.075	1		03/14/17 18:16	100-41-4	
Hexachloro-1,3-butadiene	<0.13	ug/L	1.0	0.13	1		03/14/17 18:16	87-68-3	
Isopropylbenzene (Cumene)	<0.064	ug/L	1.0	0.064	1		03/14/17 18:16	98-82-8	
Methyl-tert-butyl ether	<0.047	ug/L	0.50	0.047	1		03/14/17 18:16	1634-04-4	
Methylene Chloride	<0.097	ug/L	4.0	0.097	1		03/14/17 18:16	75-09-2	
Naphthalene	<0.064	ug/L	4.0	0.064	1		03/14/17 18:16	91-20-3	
Styrene	<0.056	ug/L	1.0	0.056	1		03/14/17 18:16	100-42-5	
Tetrachloroethene	<0.13	ug/L	0.50	0.13	1		03/14/17 18:16	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		03/14/17 18:16	109-99-9	
Toluene	<0.059	ug/L	0.50	0.059	1		03/14/17 18:16	108-88-3	
Trichloroethene	<0.044	ug/L	0.40	0.044	1		03/14/17 18:16	79-01-6	
Trichlorofluoromethane	<0.055	ug/L	0.50	0.055	1		03/14/17 18:16	75-69-4	
Vinyl acetate	<0.12	ug/L	10.0	0.12	1		03/14/17 18:16	108-05-4	
Vinyl chloride	<0.098	ug/L	0.20	0.098	1		03/14/17 18:16	75-01-4	
Xylene (Total)	<0.15	ug/L	1.5	0.15	1		03/14/17 18:16	1330-20-7	
cis-1,2-Dichloroethene	<0.12	ug/L	0.50	0.12	1		03/14/17 18:16	156-59-2	
cis-1,3-Dichloropropene	<0.069	ug/L	0.50	0.069	1		03/14/17 18:16	10061-01-5	
m&p-Xylene	<0.11	ug/L	2.0	0.11	1		03/14/17 18:16	179601-23-1	
n-Butylbenzene	<0.16	ug/L	4.0	0.16	1		03/14/17 18:16	104-51-8	
n-Propylbenzene	<0.049	ug/L	0.50	0.049	1		03/14/17 18:16	103-65-1	
o-Xylene	<0.044	ug/L	1.0	0.044	1		03/14/17 18:16	95-47-6	
p-Isopropyltoluene	<0.064	ug/L	1.0	0.064	1		03/14/17 18:16	99-87-6	
sec-Butylbenzene	<0.094	ug/L	1.0	0.094	1		03/14/17 18:16	135-98-8	
tert-Amylmethyl ether	<0.073	ug/L	0.50	0.073	1		03/14/17 18:16	994-05-8	
tert-Butyl Alcohol	<0.89	ug/L	10.0	0.89	1		03/14/17 18:16	75-65-0	
tert-Butylbenzene	<0.051	ug/L	1.0	0.051	1		03/14/17 18:16	98-06-6	
trans-1,2-Dichloroethene	<0.15	ug/L	0.50	0.15	1		03/14/17 18:16	156-60-5	
trans-1,3-Dichloropropene	<0.044	ug/L	1.0	0.044	1		03/14/17 18:16	10061-02-6	
trans-1,4-Dichloro-2-butene	<0.45	ug/L	10.0	0.45	1		03/14/17 18:16	110-57-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	108	%	75-125		1		03/14/17 18:16	17060-07-0	
Toluene-d8 (S)	116	%	75-125		1		03/14/17 18:16	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		03/14/17 18:16	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

QC Batch: 463838 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260 MSV LL Water
Associated Lab Samples: 10381428001

METHOD BLANK: 2535876 Matrix: Water
Associated Lab Samples: 10381428001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.064	0.50	0.064	03/14/17 13:01	
1,1,1-Trichloroethane	ug/L	<0.057	0.50	0.057	03/14/17 13:01	
1,1,2,2-Tetrachloroethane	ug/L	<0.055	0.50	0.055	03/14/17 13:01	
1,1,2-Trichloroethane	ug/L	<0.064	0.50	0.064	03/14/17 13:01	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	1.0	0.13	03/14/17 13:01	
1,1-Dichloroethane	ug/L	<0.055	0.50	0.055	03/14/17 13:01	
1,1-Dichloroethene	ug/L	<0.069	0.50	0.069	03/14/17 13:01	
1,1-Dichloropropene	ug/L	<0.082	0.50	0.082	03/14/17 13:01	
1,2,3-Trichlorobenzene	ug/L	<0.17	4.0	0.17	03/14/17 13:01	MN
1,2,3-Trichloropropane	ug/L	<0.19	4.0	0.19	03/14/17 13:01	
1,2,4-Trichlorobenzene	ug/L	<0.14	4.0	0.14	03/14/17 13:01	MN
1,2,4-Trimethylbenzene	ug/L	<0.068	1.0	0.068	03/14/17 13:01	MN
1,2-Dibromo-3-chloropropane	ug/L	<0.60	4.0	0.60	03/14/17 13:01	
1,2-Dibromoethane (EDB)	ug/L	<0.092	0.50	0.092	03/14/17 13:01	
1,2-Dichlorobenzene	ug/L	<0.078	0.50	0.078	03/14/17 13:01	
1,2-Dichloroethane	ug/L	<0.072	0.50	0.072	03/14/17 13:01	
1,2-Dichloroethene (Total)	ug/L	<0.16	1.0	0.16	03/14/17 13:01	
1,2-Dichloropropane	ug/L	<0.066	4.0	0.066	03/14/17 13:01	
1,3,5-Trimethylbenzene	ug/L	<0.042	1.0	0.042	03/14/17 13:01	MN
1,3-Dichlorobenzene	ug/L	<0.085	0.50	0.085	03/14/17 13:01	
1,3-Dichloropropane	ug/L	<0.059	0.50	0.059	03/14/17 13:01	
1,4-Dichlorobenzene	ug/L	<0.081	0.50	0.081	03/14/17 13:01	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	200	4.8	03/14/17 13:01	
2,2,4-Trimethylpentane	ug/L	<0.087	4.0	0.087	03/14/17 13:01	
2,2-Dichloropropane	ug/L	<0.096	1.0	0.096	03/14/17 13:01	
2-Butanone (MEK)	ug/L	<1.1	5.0	1.1	03/14/17 13:01	
2-Chlorotoluene	ug/L	<0.084	0.50	0.084	03/14/17 13:01	
2-Hexanone	ug/L	<0.19	5.0	0.19	03/14/17 13:01	
4-Chlorotoluene	ug/L	<0.048	1.0	0.048	03/14/17 13:01	MN
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	5.0	0.80	03/14/17 13:01	
Acetone	ug/L	<0.64	20.0	0.64	03/14/17 13:01	
Acrolein	ug/L	<2.1	10.0	2.1	03/14/17 13:01	
Acrylonitrile	ug/L	<0.49	10.0	0.49	03/14/17 13:01	
Benzene	ug/L	<0.042	0.50	0.042	03/14/17 13:01	
Bromobenzene	ug/L	<0.087	0.50	0.087	03/14/17 13:01	
Bromochloromethane	ug/L	<0.082	4.0	0.082	03/14/17 13:01	MN
Bromodichloromethane	ug/L	<0.068	0.50	0.068	03/14/17 13:01	
Bromoform	ug/L	<0.11	4.0	0.11	03/14/17 13:01	
Bromomethane	ug/L	<0.20	4.0	0.20	03/14/17 13:01	
Carbon disulfide	ug/L	<0.20	1.0	0.20	03/14/17 13:01	
Carbon tetrachloride	ug/L	<0.079	0.50	0.079	03/14/17 13:01	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

METHOD BLANK: 2535876 Matrix: Water
Associated Lab Samples: 10381428001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chlorobenzene	ug/L	<0.066	0.50	0.066	03/14/17 13:01	
Chloroethane	ug/L	<0.12	1.0	0.12	03/14/17 13:01	
Chloroform	ug/L	<0.21	1.0	0.21	03/14/17 13:01	
Chloromethane	ug/L	<0.080	4.0	0.080	03/14/17 13:01	
cis-1,2-Dichloroethene	ug/L	<0.12	0.50	0.12	03/14/17 13:01	
cis-1,3-Dichloropropene	ug/L	<0.069	0.50	0.069	03/14/17 13:01	
Dibromochloromethane	ug/L	<0.048	0.50	0.048	03/14/17 13:01	
Dibromomethane	ug/L	<0.14	1.0	0.14	03/14/17 13:01	
Dichlorodifluoromethane	ug/L	<0.075	1.0	0.075	03/14/17 13:01	
Dichlorofluoromethane	ug/L	<0.054	1.0	0.054	03/14/17 13:01	
Diisopropyl ether	ug/L	<0.050	1.0	0.050	03/14/17 13:01	
Ethyl-tert-butyl ether	ug/L	<0.062	0.50	0.062	03/14/17 13:01	
Ethylbenzene	ug/L	<0.075	0.50	0.075	03/14/17 13:01	
Hexachloro-1,3-butadiene	ug/L	<0.13	1.0	0.13	03/14/17 13:01	
Isopropylbenzene (Cumene)	ug/L	<0.064	1.0	0.064	03/14/17 13:01	MN
m&p-Xylene	ug/L	<0.11	2.0	0.11	03/14/17 13:01	MN
Methyl-tert-butyl ether	ug/L	<0.047	0.50	0.047	03/14/17 13:01	
Methylene Chloride	ug/L	<0.097	4.0	0.097	03/14/17 13:01	
n-Butylbenzene	ug/L	<0.16	4.0	0.16	03/14/17 13:01	MN
n-Propylbenzene	ug/L	<0.049	0.50	0.049	03/14/17 13:01	
Naphthalene	ug/L	<0.064	4.0	0.064	03/14/17 13:01	MN
o-Xylene	ug/L	<0.044	1.0	0.044	03/14/17 13:01	MN
p-Isopropyltoluene	ug/L	<0.064	1.0	0.064	03/14/17 13:01	MN
sec-Butylbenzene	ug/L	<0.094	1.0	0.094	03/14/17 13:01	MN
Styrene	ug/L	<0.056	1.0	0.056	03/14/17 13:01	MN
tert-Amylmethyl ether	ug/L	<0.073	0.50	0.073	03/14/17 13:01	
tert-Butyl Alcohol	ug/L	<0.89	10.0	0.89	03/14/17 13:01	
tert-Butylbenzene	ug/L	<0.051	1.0	0.051	03/14/17 13:01	MN
Tetrachloroethene	ug/L	<0.13	0.50	0.13	03/14/17 13:01	
Tetrahydrofuran	ug/L	<1.5	10.0	1.5	03/14/17 13:01	
Toluene	ug/L	<0.059	0.50	0.059	03/14/17 13:01	
trans-1,2-Dichloroethene	ug/L	<0.15	0.50	0.15	03/14/17 13:01	
trans-1,3-Dichloropropene	ug/L	<0.044	1.0	0.044	03/14/17 13:01	MN
trans-1,4-Dichloro-2-butene	ug/L	<0.45	10.0	0.45	03/14/17 13:01	
Trichloroethene	ug/L	<0.044	0.40	0.044	03/14/17 13:01	
Trichlorofluoromethane	ug/L	<0.055	0.50	0.055	03/14/17 13:01	
Vinyl acetate	ug/L	<0.12	10.0	0.12	03/14/17 13:01	
Vinyl chloride	ug/L	<0.098	0.20	0.098	03/14/17 13:01	
Xylene (Total)	ug/L	<0.15	1.5	0.15	03/14/17 13:01	
1,2-Dichloroethane-d4 (S)	%	109	75-125		03/14/17 13:01	
4-Bromofluorobenzene (S)	%	100	75-125		03/14/17 13:01	
Toluene-d8 (S)	%	114	75-125		03/14/17 13:01	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

LABORATORY CONTROL SAMPLE & LCSD: 2535877		2536860									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
1,1,1,2-Tetrachloroethane	ug/L	20	21.6	21.7	108	109	75-125	1	30		
1,1,1-Trichloroethane	ug/L	20	20.1	19.4	101	97	74-125	3	30		
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	21.6	106	108	67-131	1	30		
1,1,2-Trichloroethane	ug/L	20	21.5	21.7	107	109	75-125	1	30		
1,1,2-Trichlorotrifluoroethane	ug/L	20	17.9	17.4	90	87	75-125	3	30		
1,1-Dichloroethane	ug/L	20	20.5	19.5	103	98	74-125	5	30		
1,1-Dichloroethene	ug/L	20	19.3	18.7	97	94	74-125	3	30		
1,1-Dichloropropene	ug/L	20	19.6	19.3	98	97	74-125	1	30		
1,2,3-Trichlorobenzene	ug/L	20	19.4	20.4	97	102	63-131	5	30		
1,2,3-Trichloropropane	ug/L	20	21.5	21.0	108	105	73-125	2	30		
1,2,4-Trichlorobenzene	ug/L	20	18.4	19.7	92	99	66-126	7	30		
1,2,4-Trimethylbenzene	ug/L	20	19.7	20.3	99	101	74-129	3	30		
1,2-Dibromo-3-chloropropane	ug/L	50	47.2	49.0	94	98	54-129	4	30		
1,2-Dibromoethane (EDB)	ug/L	20	20.8	21.1	104	105	75-125	1	30		
1,2-Dichlorobenzene	ug/L	20	22.1	22.7	111	113	75-125	2	30		
1,2-Dichloroethane	ug/L	20	17.8	17.6	89	88	75-125	1	30		
1,2-Dichloroethene (Total)	ug/L	40	38.3	34.9	96	87	75-125	9	30		
1,2-Dichloropropane	ug/L	20	20.1	19.1	100	96	75-125	5	30		
1,3,5-Trimethylbenzene	ug/L	20	19.7	20.3	99	101	73-127	3	30		
1,3-Dichlorobenzene	ug/L	20	22.0	22.5	110	112	75-125	2	30		
1,3-Dichloropropane	ug/L	20	20.5	21.1	102	106	69-125	3	30		
1,4-Dichlorobenzene	ug/L	20	21.7	22.0	109	110	75-125	1	30		
1,4-Dioxane (p-Dioxane)	ug/L	400	343	437	86	109	70-130	24	30		
2,2,4-Trimethylpentane	ug/L	20	19.9	19.1	100	95	67-138	4	30		
2,2-Dichloropropane	ug/L	20	20.8	17.7	104	88	69-125	16	30		
2-Butanone (MEK)	ug/L	100	91.5	85.8	92	86	48-145	6	30		
2-Chlorotoluene	ug/L	20	22.2	22.7	111	113	74-125	2	30		
2-Hexanone	ug/L	100	95.9	93.6	96	94	63-135	2	30		
4-Chlorotoluene	ug/L	20	20.3	20.9	101	105	73-125	3	30		
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.9	97.0	98	97	53-138	1	30		
Acetone	ug/L	100	83.5	94.8	83	95	70-142	13	30		
Acrolein	ug/L	200	178	177	89	88	44-150	1	30		
Acrylonitrile	ug/L	200	204	190	102	95	68-125	7	30		
Benzene	ug/L	20	19.3	18.6	96	93	65-125	3	30		
Bromobenzene	ug/L	20	21.8	22.4	109	112	75-125	3	30		
Bromochloromethane	ug/L	20	19.0	16.8	95	84	75-125	12	30		
Bromodichloromethane	ug/L	20	20.2	18.9	101	95	73-125	6	30		
Bromoform	ug/L	20	21.6	20.2	108	101	69-125	7	30		
Bromomethane	ug/L	20	14.4	16.4	72	82	40-136	13	30		
Carbon disulfide	ug/L	20	17.3	16.6	87	83	36-150	4	30		
Carbon tetrachloride	ug/L	20	19.9	19.4	99	97	70-125	3	30		
Chlorobenzene	ug/L	20	20.7	20.8	103	104	75-125	1	30		
Chloroethane	ug/L	20	19.0	16.4	95	82	67-141	15	30		
Chloroform	ug/L	20	19.6	18.8	98	94	75-125	4	30		
Chloromethane	ug/L	20	18.1	16.9	91	85	50-150	7	30		
cis-1,2-Dichloroethene	ug/L	20	19.1	16.4	96	82	75-125	15	30		
cis-1,3-Dichloropropene	ug/L	20	20.9	19.8	105	99	75-125	6	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

LABORATORY CONTROL SAMPLE & LCSD:		2535877		2536860							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Dibromochloromethane	ug/L	20	21.0	21.8	105	109	75-125	4	30		
Dibromomethane	ug/L	20	20.4	19.4	102	97	75-129	5	30		
Dichlorodifluoromethane	ug/L	20	18.0	17.2	90	86	59-135	5	30		
Dichlorofluoromethane	ug/L	20	18.6	16.6	93	83	74-130	12	30		
Diisopropyl ether	ug/L	20	19.6	19.4	98	97	71-125	1	30		
Ethyl-tert-butyl ether	ug/L	20	18.9	18.9	94	94	70-130	0	30		
Ethylbenzene	ug/L	20	21.2	21.2	106	106	75-125	0	30		
Hexachloro-1,3-butadiene	ug/L	20	22.0	22.1	110	110	72-126	0	30		
Isopropylbenzene (Cumene)	ug/L	20	19.0	18.5	95	92	71-136	3	30		
m&p-Xylene	ug/L	40	39.1	39.4	98	99	75-125	1	30		
Methyl-tert-butyl ether	ug/L	20	19.9	19.8	100	99	73-127	1	30		
Methylene Chloride	ug/L	20	19.2	18.2	96	91	68-128	6	30		
n-Butylbenzene	ug/L	20	18.8	18.9	94	94	70-126	0	30		
n-Propylbenzene	ug/L	20	21.9	22.3	110	112	67-131	2	30		
Naphthalene	ug/L	20	16.1	17.3	81	87	52-134	7	30		
o-Xylene	ug/L	20	18.9	18.2	94	91	75-125	3	30		
p-Isopropyltoluene	ug/L	20	20.1	20.5	101	102	74-125	2	30		
sec-Butylbenzene	ug/L	20	19.8	20.1	99	101	69-134	2	30		
Styrene	ug/L	20	20.1	19.2	100	96	75-125	5	30		
tert-Amylmethyl ether	ug/L	20	18.6	19.0	93	95	70-130	2	30		
tert-Butyl Alcohol	ug/L	200	222	235	111	117	66-128	6	30		
tert-Butylbenzene	ug/L	20	18.6	19.5	93	98	71-128	5	30		
Tetrachloroethene	ug/L	20	20.7	21.8	104	109	74-125	5	30		
Tetrahydrofuran	ug/L	200	165	193	83	97	64-142	16	30		
Toluene	ug/L	20	19.4	20.6	97	103	75-125	6	30		
trans-1,2-Dichloroethene	ug/L	20	19.2	18.5	96	92	73-125	4	30		
trans-1,3-Dichloropropene	ug/L	20	19.9	20.3	99	102	75-125	2	30		
trans-1,4-Dichloro-2-butene	ug/L	50	51.7	49.7	103	99	54-133	4	30		
Trichloroethene	ug/L	20	19.9	20.0	100	100	75-125	0	30		
Trichlorofluoromethane	ug/L	20	19.0	17.1	95	85	75-126	11	30		
Vinyl acetate	ug/L	20	18.7	18.4	93	92	67-126	2	30		
Vinyl chloride	ug/L	20	19.0	17.7	95	89	72-125	7	30		
Xylene (Total)	ug/L	60	58.0	57.6	97	96	75-125	1	30		
1,2-Dichloroethane-d4 (S)	%				107	103	75-125				
4-Bromofluorobenzene (S)	%				95	101	75-125				
Toluene-d8 (S)	%				103	110	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2535878		2535879								
Parameter	Units	10381411008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	0.50 U	20	20	20.2	21.3	101	107	75-127	5	30	
1,1,1-Trichloroethane	ug/L	0.50 U	20	20	20.2	21.3	101	107	66-142	5	30	
1,1,2,2-Tetrachloroethane	ug/L	0.50 U	20	20	20.0	20.9	100	105	70-131	5	30	
1,1,2-Trichloroethane	ug/L	0.50 U	20	20	20.0	21.0	100	105	75-128	5	30	

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Parameter	Units	2535878		2535879		MS % Rec	MSD % Rec	% Rec	Limits	RPD	Max RPD	Qual
		MS Result	MSD Conc.	MS Result	MSD Conc.							
1,1,2-Trichlorotrifluoroethane	ug/L	2.5	20	20	23.2	25.0	103	112	54-150	8	30	
1,1-Dichloroethane	ug/L	1.7	20	20	20.7	21.9	95	101	58-147	6	30	
1,1-Dichloroethene	ug/L	0.52	20	20	19.9	21.4	97	104	49-150	7	30	
1,1-Dichloropropene	ug/L	0.50 U	20	20	20.0	21.6	100	108	58-147	8	30	
1,2,3-Trichlorobenzene	ug/L	4.0 U	20	20	19.6	21.3	98	107	57-139	9	30	
1,2,3-Trichloropropane	ug/L	4.0 U	20	20	19.9	20.6	99	103	71-127	4	30	
1,2,4-Trichlorobenzene	ug/L	4.0 U	20	20	19.1	20.5	95	102	55-136	7	30	
1,2,4-Trimethylbenzene	ug/L	1.0 U	20	20	19.2	20.6	96	103	67-138	7	30	
1,2-Dibromo-3-chloropropane	ug/L	4.0 U	50	50	45.3	47.3	91	95	63-136	4	30	
1,2-Dibromoethane (EDB)	ug/L	0.50 U	20	20	19.0	20.4	95	102	74-125	7	30	
1,2-Dichlorobenzene	ug/L	2.3	20	20	23.7	25.2	107	115	75-125	6	30	
1,2-Dichloroethane	ug/L	0.50 U	20	20	16.9	18.3	84	91	63-133	8	30	
1,2-Dichloroethene (Total)	ug/L	3.6	40	40	42.7	44.8	98	103	55-146	5	30	
1,2-Dichloropropane	ug/L	4.0 U	20	20	18.8	20.0	94	100	63-138	6	30	
1,3,5-Trimethylbenzene	ug/L	1.0 U	20	20	19.4	20.9	97	105	69-136	7	30	
1,3-Dichlorobenzene	ug/L	0.50 U	20	20	21.6	22.9	108	115	75-125	6	30	
1,3-Dichloropropane	ug/L	0.50 U	20	20	19.6	21.3	98	106	65-135	8	30	
1,4-Dichlorobenzene	ug/L	1.4	20	20	22.0	23.6	103	111	70-126	7	30	
1,4-Dioxane (p-Dioxane)	ug/L	200 U	400	400	378	415	95	104	54-145	9	30	
2,2,4-Trimethylpentane	ug/L	4.0 U	20	20	24.6	26.1	123	131	30-150	6	30	
2,2-Dichloropropane	ug/L	1.0 U	20	20	20.6	22.1	103	111	39-148	7	30	
2-Butanone (MEK)	ug/L	5.0 U	100	100	81.3	84.0	81	84	50-144	3	30	
2-Chlorotoluene	ug/L	0.50 U	20	20	21.6	23.2	108	116	71-135	7	30	
2-Hexanone	ug/L	5.0 U	100	100	85.4	89.9	85	90	43-150	5	30	
4-Chlorotoluene	ug/L	1.0 U	20	20	19.9	21.1	99	106	71-131	6	30	
4-Methyl-2-pentanone (MIBK)	ug/L	5.0 U	100	100	89.2	93.5	89	94	60-147	5	30	
Acetone	ug/L	20.0 U	100	100	82.9	90.1	83	90	59-150	8	30	
Acrolein	ug/L	10.0 U	200	200	224	231	112	116	30-150	3	30	
Acrylonitrile	ug/L	10.0 U	200	200	179	184	90	92	41-148	3	30	
Benzene	ug/L	0.86	20	20	19.5	21.0	93	101	61-138	7	30	
Bromobenzene	ug/L	0.50 U	20	20	21.0	22.6	105	113	74-130	7	30	
Bromochloromethane	ug/L	4.0 U	20	20	17.9	19.7	89	98	65-137	10	30	
Bromodichloromethane	ug/L	0.50 U	20	20	17.5	18.9	87	94	66-136	8	30	
Bromoform	ug/L	4.0 U	20	20	18.0	19.1	90	96	71-125	6	30	
Bromomethane	ug/L	4.0 U	20	20	18.6	19.5	93	98	30-150	5	30	
Carbon disulfide	ug/L	1.0 U	20	20	17.2	18.3	86	92	30-150	6	30	
Carbon tetrachloride	ug/L	0.50 U	20	20	20.4	21.2	102	106	68-140	4	30	
Chlorobenzene	ug/L	0.50 U	20	20	20.0	21.4	99	107	75-132	7	30	
Chloroethane	ug/L	1.0 U	20	20	19.6	19.7	98	98	55-150	1	30	
Chloroform	ug/L	1.0 U	20	20	18.5	20.0	93	100	64-139	7	30	
Chloromethane	ug/L	4.0 U	20	20	19.2	18.4	96	92	73-150	4	30	
cis-1,2-Dichloroethene	ug/L	3.6	20	20	23.5	24.5	99	105	62-138	4	30	
cis-1,3-Dichloropropene	ug/L	0.50 U	20	20	16.7	18.1	84	90	70-125	8	30	
Dibromochloromethane	ug/L	0.50 U	20	20	19.6	21.0	98	105	74-125	7	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535878												2535879	
Parameter	Units	10381411008	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual		
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD			
Dibromomethane	ug/L	1.0 U	20	20	18.0	18.8	90	94	66-138	4	30		
Dichlorodifluoromethane	ug/L	42.6	20	20	63.2	61.8	103	96	53-150	2	30		
Dichlorofluoromethane	ug/L	6.7	20	20	25.6	25.5	95	94	58-150	0	30		
Diisopropyl ether	ug/L	1.0 U	20	20	18.0	19.4	90	97	50-139	8	30		
Ethyl-tert-butyl ether	ug/L	0.50 U	20	20	18.3	18.7	91	94	30-140	2	30		
Ethylbenzene	ug/L	0.50 U	20	20	20.2	21.8	101	109	66-141	8	30		
Hexachloro-1,3-butadiene	ug/L	1.0 U	20	20	27.2	26.9	136	135	63-139	1	30		
Isopropylbenzene (Cumene)	ug/L	1.0 U	20	20	17.5	19.1	88	95	65-146	9	30		
m&p-Xylene	ug/L	2.0 U	40	40	37.4	40.6	93	102	72-142	8	30		
Methyl-tert-butyl ether	ug/L	0.50 U	20	20	18.6	19.0	93	95	63-134	3	30		
Methylene Chloride	ug/L	4.0 U	20	20	17.7	18.5	88	93	49-143	5	30		
n-Butylbenzene	ug/L	4.0 U	20	20	19.9	21.2	99	106	67-134	6	30		
n-Propylbenzene	ug/L	0.50 U	20	20	21.7	23.2	109	116	62-142	6	30		
Naphthalene	ug/L	4.0 U	20	20	15.7	17.0	79	85	41-150	8	30		
o-Xylene	ug/L	1.0 U	20	20	17.2	18.9	86	94	66-138	9	30		
p-Isopropyltoluene	ug/L	1.0 U	20	20	20.2	21.7	101	109	64-137	7	30		
sec-Butylbenzene	ug/L	1.0 U	20	20	20.7	21.6	103	108	65-142	4	30		
Styrene	ug/L	1.0 U	20	20	17.9	19.5	90	97	61-142	8	30		
tert-Amylmethyl ether	ug/L	0.50 U	20	20	17.9	19.3	89	96	65-125	8	30		
tert-Butyl Alcohol	ug/L	10.0 U	200	200	202	217	101	108	59-138	7	30		
tert-Butylbenzene	ug/L	1.0 U	20	20	19.5	20.8	98	104	69-135	6	30		
Tetrachloroethene	ug/L	15.7	20	20	35.9	37.5	101	109	62-142	4	30		
Tetrahydrofuran	ug/L	10.0 U	200	200	172	190	86	95	55-150	10	30		
Toluene	ug/L	0.50 U	20	20	19.8	21.2	99	106	66-132	7	30		
trans-1,2-Dichloroethene	ug/L	0.50 U	20	20	19.2	20.3	96	101	48-150	5	30		
trans-1,3-Dichloropropene	ug/L	1.0 U	20	20	19.0	20.2	95	101	65-130	6	30		
trans-1,4-Dichloro-2-butene	ug/L	10.0 U	50	50	48.3	50.1	97	100	31-150	4	30		
Trichloroethene	ug/L	4.8	20	20	24.5	25.7	99	105	64-142	5	30		
Trichlorofluoromethane	ug/L	1.8	20	20	23.7	23.6	109	109	63-150	0	30		
Vinyl acetate	ug/L	10.0 U	20	20	17.9	18.0	89	90	30-150	1	30		
Vinyl chloride	ug/L	0.20 U	20	20	22.2	21.3	111	106	58-150	4	30		
Xylene (Total)	ug/L	1.5 U	60	60	54.6	59.5	91	99	70-140	9	30		
1,2-Dichloroethane-d4 (S)	%						106	105	75-125				
4-Bromofluorobenzene (S)	%						101	101	75-125				
Toluene-d8 (S)	%						106	107	75-125				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535880												2535881	
Parameter	Units	10381429001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual		
		Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD			
1,1,1,2-Tetrachloroethane	ug/L	<0.064	20	20	20.5	21.8	103	109	75-127	6	30		
1,1,1-Trichloroethane	ug/L	<0.057	20	20	20.2	21.8	101	109	66-142	8	30		
1,1,2,2-Tetrachloroethane	ug/L	<0.055	20	20	20.2	20.6	101	103	70-131	2	30		
1,1,2-Trichloroethane	ug/L	<0.064	20	20	20.6	20.7	103	104	75-128	1	30		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2535880		2535881								
Parameter	Units	MS		MSD		MS		MSD		% Rec Limits	Max RPD	Qual
		10381429001 Result	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec				
1,1,2-Trichlorotrifluoroethane	ug/L	<0.13	20	20	21.0	27.1	105	136	54-150	25	30	
1,1-Dichloroethane	ug/L	<0.055	20	20	19.8	25.6	99	128	58-147	26	30	
1,1-Dichloroethene	ug/L	<0.069	20	20	19.7	24.8	98	124	49-150	23	30	
1,1-Dichloropropene	ug/L	<0.082	20	20	20.8	21.4	104	107	58-147	3	30	
1,2,3-Trichlorobenzene	ug/L	<0.17	20	20	20.2	20.9	101	104	57-139	4	30	
1,2,3-Trichloropropane	ug/L	<0.19	20	20	19.6	20.8	98	104	71-127	6	30	
1,2,4-Trichlorobenzene	ug/L	<0.14	20	20	19.9	20.2	100	101	55-136	1	30	
1,2,4-Trimethylbenzene	ug/L	<0.068	20	20	20.4	20.9	102	104	67-138	2	30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	46.5	49.3	93	99	63-136	6	30	
1,2-Dibromoethane (EDB)	ug/L	<0.092	20	20	19.7	20.9	99	105	74-125	6	30	
1,2-Dichlorobenzene	ug/L	<0.078	20	20	22.2	22.3	111	112	75-125	1	30	
1,2-Dichloroethane	ug/L	<0.072	20	20	17.2	18.9	86	94	63-133	9	30	
1,2-Dichloroethene (Total)	ug/L	<0.16	40	40	39.1	45.5	98	114	55-146	15	30	
1,2-Dichloropropane	ug/L	<0.066	20	20	19.1	19.8	95	99	63-138	3	30	
1,3,5-Trimethylbenzene	ug/L	<0.042	20	20	20.5	21.0	102	105	69-136	3	30	
1,3-Dichlorobenzene	ug/L	<0.085	20	20	21.5	22.6	107	113	75-125	5	30	
1,3-Dichloropropane	ug/L	<0.059	20	20	20.5	20.6	102	103	65-135	1	30	
1,4-Dichlorobenzene	ug/L	<0.081	20	20	21.4	22.2	107	111	70-126	4	30	
1,4-Dioxane (p-Dioxane)	ug/L	<4.8	400	400	378	395	94	99	54-145	4	30	
2,2,4-Trimethylpentane	ug/L	<0.087	20	20	24.7	25.0	123	125	30-150	1	30	
2,2-Dichloropropane	ug/L	<0.096	20	20	21.1	22.5	106	113	39-148	7	30	
2-Butanone (MEK)	ug/L	<1.1	100	100	80.7	87.5	81	87	50-144	8	30	
2-Chlorotoluene	ug/L	<0.084	20	20	22.4	23.1	112	116	71-135	3	30	
2-Hexanone	ug/L	<0.19	100	100	88.7	96.4	89	96	43-150	8	30	
4-Chlorotoluene	ug/L	<0.048	20	20	20.8	21.1	104	105	71-131	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.80	100	100	91.4	97.3	91	97	60-147	6	30	
Acetone	ug/L	<0.64	100	100	86.7	91.9	87	92	59-150	6	30	
Acrolein	ug/L	<2.1	200	200	214	294	107	147	30-150	32	30	R1
Acrylonitrile	ug/L	<0.49	200	200	179	234	90	117	41-148	26	30	
Benzene	ug/L	<0.042	20	20	19.3	19.6	96	98	61-138	2	30	
Bromobenzene	ug/L	<0.087	20	20	21.7	22.3	108	111	74-130	3	30	
Bromochloromethane	ug/L	<0.082	20	20	18.0	19.3	90	96	65-137	7	30	
Bromodichloromethane	ug/L	<0.068	20	20	18.0	19.4	90	97	66-136	8	30	
Bromoform	ug/L	<0.11	20	20	19.1	20.3	96	101	71-125	6	30	
Bromomethane	ug/L	<0.20	20	20	19.9	24.8	100	124	30-150	22	30	
Carbon disulfide	ug/L	<0.20	20	20	17.0	22.0	84	109	30-150	25	30	
Carbon tetrachloride	ug/L	28.0	20	20	43.1	45.1	75	86	68-140	5	30	
Chlorobenzene	ug/L	<0.066	20	20	20.6	21.3	103	106	75-132	3	30	
Chloroethane	ug/L	<0.12	20	20	19.1	24.4	95	122	55-150	24	30	
Chloroform	ug/L	2.2	20	20	20.5	21.7	91	97	64-139	6	30	
Chloromethane	ug/L	<0.080	20	20	18.1	23.0	90	115	73-150	24	30	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	19.6	20.7	98	103	62-138	5	30	
cis-1,3-Dichloropropene	ug/L	<0.069	20	20	17.5	18.7	88	93	70-125	6	30	
Dibromochloromethane	ug/L	<0.048	20	20	20.7	21.4	104	107	74-125	3	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1497 UPRR_Freeman
Pace Project No.: 10381428

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2535880		2535881		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		10381429001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result								
Dibromomethane	ug/L	<0.14	20	20	18.1	19.3	90	96	66-138	6	30		
Dichlorodifluoromethane	ug/L	<0.075	20	20	21.3	27.7	107	138	53-150	26	30		
Dichlorofluoromethane	ug/L	<0.054	20	20	19.2	24.5	96	122	58-150	24	30		
Diisopropyl ether	ug/L	<0.050	20	20	17.8	25.5	89	128	50-139	35	30	R1	
Ethyl-tert-butyl ether	ug/L	<0.062	20	20	18.6	23.9	93	120	30-140	25	30		
Ethylbenzene	ug/L	<0.075	20	20	21.4	22.4	107	112	66-141	5	30		
Hexachloro-1,3-butadiene	ug/L	<0.13	20	20	25.1	24.5	126	123	63-139	3	30		
Isopropylbenzene (Cumene)	ug/L	<0.064	20	20	19.2	20.0	96	100	65-146	4	30		
m&p-Xylene	ug/L	<0.11	40	40	40.4	41.1	101	103	72-142	2	30		
Methyl-tert-butyl ether	ug/L	<0.047	20	20	19.1	24.9	95	125	63-134	26	30		
Methylene Chloride	ug/L	<0.097	20	20	17.3	23.1	87	115	49-143	28	30		
n-Butylbenzene	ug/L	<0.16	20	20	20.5	21.1	103	106	67-134	3	30		
n-Propylbenzene	ug/L	<0.049	20	20	23.1	23.7	115	119	62-142	3	30		
Naphthalene	ug/L	<0.064	20	20	17.1	17.7	86	89	41-150	4	30		
o-Xylene	ug/L	<0.044	20	20	19.1	19.5	95	98	66-138	2	30		
p-Isopropyltoluene	ug/L	<0.064	20	20	21.2	21.8	106	109	64-137	3	30		
sec-Butylbenzene	ug/L	<0.094	20	20	21.2	21.8	106	109	65-142	3	30		
Styrene	ug/L	<0.056	20	20	19.1	19.6	95	98	61-142	3	30		
tert-Amylmethyl ether	ug/L	<0.073	20	20	18.5	19.5	92	97	65-125	5	30		
tert-Butyl Alcohol	ug/L	<0.89	200	200	208	248	104	124	59-138	17	30		
tert-Butylbenzene	ug/L	<0.051	20	20	20.6	21.0	103	105	69-135	2	30		
Tetrachloroethene	ug/L	<0.13	20	20	22.6	22.6	113	113	62-142	0	30		
Tetrahydrofuran	ug/L	<1.5	200	200	187	156	94	78	55-150	18	30		
Toluene	ug/L	<0.059	20	20	20.7	20.6	104	103	66-132	0	30		
trans-1,2-Dichloroethene	ug/L	<0.15	20	20	19.5	24.9	98	124	48-150	24	30		
trans-1,3-Dichloropropene	ug/L	<0.044	20	20	19.4	20.6	97	103	65-130	6	30		
trans-1,4-Dichloro-2-butene	ug/L	<0.45	50	50	49.2	52.6	98	105	31-150	7	30		
Trichloroethene	ug/L	<0.044	20	20	20.3	20.9	102	105	64-142	3	30		
Trichlorofluoromethane	ug/L	<0.055	20	20	21.6	27.6	108	138	63-150	24	30		
Vinyl acetate	ug/L	<0.12	20	20	17.5	22.8	88	114	30-150	26	30		
Vinyl chloride	ug/L	<0.098	20	20	20.7	26.7	104	134	58-150	25	30		
Xylene (Total)	ug/L	<0.15	60	60	59.5	60.7	99	101	70-140	2	30		
1,2-Dichloroethane-d4 (S)	%						105	107	75-125				
4-Bromofluorobenzene (S)	%						100	97	75-125				
Toluene-d8 (S)	%						108	104	75-125				

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

MN The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

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METHOD CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Parameter	Matrix	Analytical Method	Preparation Method
8260B MSV Low Level	Water	SW-846 8260B/5030B	N/A

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 1497 UPRR_Freeman

Pace Project No.: 10381428

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10381428001	Marlow No2-GW-030917	EPA 8260B	463838		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt - ESI Tech Specs Client Name: CH2M Hill Project #: **WO#: 10381428**

Courier: Fed Ex UPS USPS Client
 Commercial Pace SpeedDee Other: _____

Tracking Number: 7222 2739 8610

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: 151401163 151401164 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.5 Cooler Temp Corrected (°C): 0.6 Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: ±0.1 Date and Initials of Person Examining Contents: RG 3/10/17

USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? Yes No
 Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume (triple volume provided for MS/MSD)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH Positive for Res. Chlorine? Y N
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , NaOH > 9 Sulfide, NaOH > 12 Cyanide) Exception: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water) and Dioxin.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Per method, VOA pH is checked after analysis	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
3 Trip Blanks Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: <u>11:25</u> Temp: <u>0.5</u>	Corrected Temp: <u>0.6</u>	
Time: <u>11:45</u> put in cooler		
Time: _____ Temp: _____	Corrected Temp: _____	

Project Manager Review:

JENNI GROSS

Date: 03/10/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

March 15, 2017

Steve Demus
CH2M Hill
9 S. Washington
Suite 400
Spokane, WA 99201

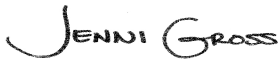
RE: Project: 1497 UPRR_Freeman
Pace Project No.: 10381429

Dear Steve Demus:

Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Gross
jennifer.gross@pacelabs.com
(206)957-2426
Project Manager

Enclosures

cc: Lindsey Baumann, CH2M Hill
David Hodson, CH2M Hill
Mark Ochsner, CH2M Hill
Brad Ostapkowicz, CH2M Hill
UPRR-Sysdat@ghd.com, UPRR



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 1497 UPRR_Freeman

Pace Project No.: 10381429

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

Alaska Certification UST-107

525 N 8th Street, Salina, KS 67401

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

Arizona Certification #: AZ-0014

Arkansas Certification #: 88-0680

California Certification #: 01155CA

Colorado Certification #Pace

Connecticut Certification #: PH-0256

EPA Region 8 Certification #: 8TMS-L

Florida/NELAP Certification #: E87605

Guam Certification #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

Idaho Certification #: MN00064

Hawaii Certification #MN00064

Illinois Certification #: 200011

Indiana Certification#C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky Dept of Envi. Protection - DW #90062

Kentucky Dept of Envi. Protection - WW #:90062

Louisiana DEQ Certification #: 3086

Louisiana DHH #: LA140001

Maine Certification #: 2013011

Maryland Certification #: 322

Michigan DEPH Certification #: 9909

Minnesota Certification #: 027-053-137

Mississippi Certification #: Pace

Montana Certification #: MT0092

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

New York Certification #: 11647

North Carolina Certification #: 530

North Carolina State Public Health #: 27700

North Dakota Certification #: R-036

Ohio EPA #: 4150

Ohio VAP Certification #: CL101

Oklahoma Certification #: 9507

Oregon Certification #: MN200001

Oregon Certification #: MN300001

Pennsylvania Certification #: 68-00563

Puerto Rico Certification

Saipan (CNMI) #:MP0003

South Carolina #:74003001

Texas Certification #: T104704192

Tennessee Certification #: 02818

Utah Certification #: MN000642013-4

Virginia DGS Certification #: 251

Virginia/VELAP Certification #: Pace

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

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